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ABSTRACT

This guide for teachers contains product safety information appropriate for young children and suggests learning activities for third through sixth graders. Activities encourage children to examine their home environments for safety hazards and to share this information with family and friends. Unit 1 introduces five basic safety concepts upon which all seven remaining units are built: risk, hazard, prevention, control, and responsibility. The subsequent seven units apply the basic safety concepts to the areas of home fire safety; playground safety; bicycle, roller skate, and skateboard safety; poison prevention; toy safety; holiday safety; and electrical safety. Each unit provides an introduction; a statement of basic philosophy and purpose; a summary of objectives; suggested discussion questions; activity charts coordinating objectives, student competencies, and activities; a glossary defining consumer product safety terms in a way children can understand; and teacher resource information about safety principles and hazards. (RH)

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"It's No Accident"

A CONSUMER PRODUCT SAFETY EDUCATION CURRICULUM RESOURCE GUIDE FOR TEACHERS OF GRADES 3 THROUGH 6

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Preface

In one recent year, over 28,000 Americans died in consumer product-related accidents. Of the approximately 33 million people who were injured, about 12½ million were children under age 16. The greatest percentage of these deaths and injuries might have been prevented had consumers been alerted to potential hazards and provided with information to help them reduce the risk of injury.

This Curriculum Resource guide, "It's No Accident," has been prepared by the Consumer Product Safety Commission (CPSC) to encourage teachers to incorporate consumer product safety education into their curriculum. The goal is to increase young children's awareness of potential hazards associated with specific consumer products and help them to select, use, maintain, store and dispose of products safely.

The Commission believes that an awareness of the hazards potentially associated with products a child uses and an understanding of the steps that can be taken to prevent accidents should be a part of every child's education. Because they can never be completely protected from the environmental hazards they are exposed to each day, children must be alerted to the possibility of product-related injury. They must assume the responsibility and acquire the safe habits which will allow them to protect themselves.

The Consumer Product Safety Commission is an independent, federal regulatory agency charged with protecting the public from dangerous products found in homes, schools, and public areas. The agency fulfills this mandate by working with industry to develop voluntary safety standards, enact mandatory standards, ban or develop corrective action programs for hazardous products, and inform and educate consumers about product safety.

The Commission has jurisdiction over more than 10,000 consumer products used in the home, school, and public places. Until recently, the only safety standards, if any, that many of these products had to meet were those set by the manufacturers themselves. For many others there are still no independently determined standards.

CPSC encourages public elementary schools nationwide to incorporate consumer product safety principles and concepts into the established curriculum. At present, either by state law or by board of education policy, almost 40 states require courses in consumer education in the schools. Schools are partially responsible for teaching students how to live and survive in their everyday surroundings. Consumer product safety is an important aspect of that training. Through their schools, children can be encouraged to share consumer product safety information with their families and friends.

The Consumer Product Safety Education Program is administered by the CPSC Office of Outreach Coordination. The program is directed by Dr. Elizabeth Johnson, assisted by Ms. Deborah Gordon. Both can be reached at (301) 492-6580, or by calling the Commission's toll-free hotline: 800-638CPSC.

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How to Use the Curriculum Guide

The Purpose of the Guide

The objective of this guide is to provide teachers with product safety information that can be taught to young children. The activities are designed to teach students safety habits and practices that can reduce product-related accidents and injuries. It exposes children to the potential RISKS and HAZARDS associated with product use and misuse. It addresses methods of hazard PREVENTION and CONTROL and identifies students' RESPONSIBILITY in adopting safety principles. The guide has suggested activities for grade levels 3 through 6.

The activities in the guide encourage children to examine their home environment for safety hazards and to share this information with family and friends. In this way, what children learn about safety can be practiced in the home. While children are not always directly responsible for home safety practices, they can begin to influence the habits of those around them.

The Teachers' Role

The teacher is an essential partner in the community effort to transmit safety information. Teachers of 3rd through 6th grades have an opportunity to teach product safety to a particularly appropriate audience. Some of these children have money of their own, others influence their parents' purchases, and most are keenly aware of products they use or find at home. They are part of a billion-dollar-a-year product market. With the help of parents and teachers, they can operate in that market as wise consumers who understand and practice basic safety principles.

How the Guide is Organized

The Guide is divided into eight separate units. Unit 1 lays the foundation by introducing the basic safety concepts upon which all of the remaining units are built. The remaining seven units apply these basic safety concepts to the following areas:

Home Fire Safety
Playground Safety
Bicycle, Roller Skate, and Skateboard Safety
Poison Prevention
Toy Safety
Holiday Safety
Electrical Safety

While Unit 1 is designed to be presented first, the remaining seven may be taught in any order. These eight separate unit curricula can stand on their own, or they can be integrated throughout the year into the regular school curriculum as it already exists. The suggested activities reflect a wide range of teaching methodologies, leaving individual teachers free to choose those with which they feel most comfortable. No unit depends on the use of one particular teaching style.

Each of the eight units contains the following sections:

Introduction — This section makes a general statement that is designed to introduce the topic to the teacher.

Principle — The principle outlines the basic philosophy and purpose of the unit and serves as a means of focusing the objectives, student competencies and activities.

Objectives-Overview — A summary listing of the objectives included in the unit.

Suggested Discussion Questions — These are sample questions to help stimulate

discussion and generate more questions. They are categorized according to the five basic concepts: risk, hazard, prevention, control, and responsibility.

Activity Charts — This is the broad heading under which the objectives, student competencies and activities are included.

Objectives — These are the broad objectives for each unit and are intended to identify, for the teacher, the information that is to be covered. Each objective relates to one or more of the five basic concepts presented in the guide: Risk, Hazard, Prevention/Control and Responsibility. The concept is noted for each objective.

Student Competencies — These are specific behavioral objectives. They cue the teacher to what the student is expected to know or do by the time the unit is completed.

Activities — This section presents a wide range of classroom exercises, games, field trips and other activities through which students can acquire the specified competencies. The activities are based upon what educators know about how children grow and develop. Since children learn at different rates, it is important that the learning tasks be broad enough so that teachers may use their discretion in choosing those activities most appropriate to their students.

Glossary — This section includes definitions of consumer product safety terms that should become part of the students' vocabulary. NOTE: These are not meant to be technical definitions. They are defined in terms that 3rd through 6th grade students can understand and relate to the curriculum unit.

Teacher Resource Information

This section contains information to be transmitted to students. The information is generally divided into two categories: safety principles and habits that children should learn and practice; safety hazards that children can not control, but should learn to recognize so they can alert family and friends to dangerous practices.

The information presented in this section may serve an additional purpose: Prompted by the children's interest in consumer product safety, parents may approach the teacher with specific questions. Teachers may, of their own accord, want to send information on consumer product safety home to parents, thus giving parents vital information for making the home as accident-proof as possible.

How the Activities are Presented

The ultimate test of the curriculum will be the success of the suggested activities in helping students achieve the desired competencies. Some additional notes about the presentation of the suggested activities may be helpful to teachers:

The approximate grade level of each activity is indicated. Those marked "GR. 3,4,5,6" are considered suitable for all grades. Since such labels are necessarily generalizations, teachers should take their own students into consideration when interpreting them. In addition, activities marked for the higher grades can be scaled down and made suitable for young children as well. On the other hand, simpler activities for younger students can also be used in grades 5 and 6, to serve as a review or to be completed more quickly.

Among the recommended activities are those designed for the classroom and those which students and parents can do together at home. These home-based activities are included to encourage students to share the information with their families.

A key characteristic of the curriculum design is to encourage students to learn in a variety of ways, including direct involvement, problem solving, creative decision-making, and hands-on experiences. The suggested activities provide a balance of teacher-directed and student-initiated activities.

Because the curriculum guide is for grades 3 through 6, students may be exposed to the material in different classes and in more than one grade. It would be helpful to survey students before teaching a unit to see if they have already covered the material in another class. The materials can then be adapted to the students' needs.

This Guide is one source of information. If it instills in children the real need for, and value of consumer product safety, it will have served its purpose well.

Unit 1 Consumer Product Safety — What's It All About?

A. Introduction

In any situation that concerns health and safety, there are three basic factors involved: the person, the product or substance, and the environment. Each unit in this guide is built upon safety concepts that are useful in understanding the various relationships among these three factors. The concepts underlying each unit in the Guide are:

Risk,
Hazard,
Prevention and Control, and
Responsibility

The purpose of Unit 1 is to introduce these safety concepts, and to introduce five safety procedures: selection, use, maintenance (or repair/retrofit), storage, and disposal. Unit 1 serves as a diagnostic tool for evaluating young students' awareness of health and safety factors, and as a learning tool to stimulate interest in consumer safety.

B. Principle

Consumer product related injuries and hazards can be reduced and controlled when basic safety procedures are understood and followed.

C. Objectives Overview

1. To introduce students to the basic concepts of consumer product safety:

   The relationship of person, product and environment to accidents and injuries involving consumer products.

   The identification of risks and hazards associated with the use of consumer products;

   The methods of hazard prevention and control; and

   The students' responsibility in practicing safety procedures.

2. To teach students how to apply safety principles in the selection, use, maintenance, storage and disposal of consumer products.

3. To encourage students to share their knowledge of consumer product safety with their families and friends.

D. Suggested Discussion Questions

RISK

1. What is a risk? What does it mean to take a chance?
2. What is the risk in each of these situations?
   Taking medicine found anywhere in the home.
   Riding a bicycle with a broken handlebar.
   Using a hair dryer without reading the instructions.
   A two-year-old playing with a toy designed for an older child.
3. Why would people take these risks?
4. Are there different kinds of risks?
5. Are there times when you have to take risks?
6. Are there times when you should take risks even though you don't really have to?
7. Have you ever taken a risk? Why? What happened?

HAZARD

1. What are dangerous situations?
2. What are the hazards/dangers in each of the following situations?
   Putting candles on a Christmas tree.
   Using matches.
   Drying your hair with an electric hair dryer.
   Riding your bike at night.
   Sitting close to a fireplace or stove.
   Storing medicines within reach of a young child.
3. Do your younger brothers, sisters, or friends ever play with your toys? Can this be dangerous? Why?
4. Have your parents ever told you you couldn't have something because it was dangerous? What was the danger?
5. Have you or someone you know ever been hurt when riding a bicycle? playing with a toy? taking someone else's medicine?

PREVENTION/CONTROL

1. What can you do to prevent accidents?
2. Do you or your parents ever read the labels on products you buy?
3. What is the purpose of the label on a package?
4. Why is it important to keep certain things where young children can't get them?
5. Why is it important to recommend the age groups for toys and games?

RESPONSIBILITY

1. What do you do when something you own gets torn or broken?
2. Where do you store your things at home? At school?
3. What can you do to prevent product-related accidents and injuries?
4. What can you teach others about product safety?

E. Activity Charts

NOTE: *The approximate grade level for each activity is noted. However, teachers are encouraged to adapt the activities to the learning level and abilities of their students.*

OBJECTIVE #1: RISK/HAZARD

To introduce students to the basic concepts of consumer product safety:

the relationship of person, product, and environment to accidents and injuries caused by consumer products;
the identification of risks and hazards associated with the use of consumer products;

the methods of hazard prevention and control; and
the students' responsibility in practicing safety procedures.

COMPETENCY	ACTIVITIES	GRADES
a. Define the terms — person, product, environment, risk, hazard, consumer, safety, prevention and control.	1. Preliminary Activity — Pretest. Conduct a mini-consumer product safety education diagnosis by giving a quiz. (Appendix A.) Discussion of quiz results will stimulate thinking about consumer product safety. NOTE: *This quiz can be taken as a group or independently by students.*	3, 4
	2. Develop a Consumer Product Safety dictionary for each student. As new words are introduced, have students enter them in their dictionary. Use student drawings or magazine pictures to illustrate the dictionaries.	3, 4, 5, 6
	3. Play the following "Mix and Match" game. Instructions: Below is a list of words with their definitions. The definitions on the right do not necessarily define the word on the immediate left. Draw an arrow from the word to the correct definition. Person: Things around us. Product: A person who uses a product. Environment: Something that causes danger or can cause injury or death. Risk: A human being. Hazard: An article bought by and used by someone.	4, 5, 6

COMPETENCY	ACTIVITIES	GRADES
	Consumer: The chance of getting injured when you act in certain ways. Safety: Making sure you don't get hurt. Prevention/ Control: Trying to keep something from happening.	
	4. Reinforce the concepts of risk and hazard. Have students list all the risks and hazards they encounter in an environment familiar to them, e.g., home or school. Using the list, identify the risks and the potential hazards.	5, 6
b. Describe the relationship between person, product and environment with regard to accident situations.	1. Have students read stories on accidents and determine how each of the following contributed to the accident — the person, product or the environment. Have students discuss how these accidents could have been prevented. (See Appendix B for suggested stories; have students also make up their own stories.)	3, 4, 5, 6
c. Explain the difference between acceptable risk and potential hazard.	1. Have students write rhymes about the acceptable risks and potential hazards of using one of their toys. Set the rhyme to music and play musical chairs or circle games.	3, 4
	2. Have children look at commercials on television. Pick one commercial that deals with a product. Have the children list the risks and hazards involved in using the product. In class, generate a discussion on the acceptable risks and potential hazards involved in using the product.	5, 6

COMPETENCY	ACTIVITIES	GRADES
d. Provide examples of the hazards associated with a specific product.	1. Have students bring to class or draw pictures of hazardous products and substances and make a bulletin board display or booklet. Classify the pictures according to type of hazard.	3, 4
	2. Have students complete a chart on risks, hazards, prevention and control. (See sample in Appendix C.) NOTE: *This chart can be completed as a group or by students independently.*	4, 5
	3. Have students inspect an environment familiar to them (e.g., their family garage or the school's product storage area) and list all the hazardous products and substances they find, specifying the hazard of each.	5, 6
	4. Have students choose one product that someone disposed of improperly. Write a story about what could have happened if a three-year-old found that product.	5, 6
e. Identify ways in which product-related accidents can be reduced or eliminated.	1. Have children develop a story about a product-related accident and record the stories. Choose a creative story and develop a puppet show. The script should discuss the accident and show ways in which the accident could have been prevented. The puppet show can be put on for parents.	3, 4
	2. Have students bring in newspaper or magazine articles about consumer product safety. Establish a product safety file or scrapbook with students determining the categories, e.g., product-related injuries, community safety programs, etc.	5, 6
	3. Have students develop consumer product safety-related crossword puzzles. (See example in Appendix D.)	5, 6

OBJECTIVE #2: PREVENTION/CONTROL

To teach students how to apply safety principles in the selection, use, maintenance, storage and disposal of consumer products.

COMPETENCY	ACTIVITIES	GRADES
a. Define the terms – selection, use, maintenance, storage and disposal.	1. Provide the children with a list defining the terms selection, use, maintenance, storage and disposal. Discuss the definitions of the terms with the children. Have them write jingles using each of the words in their proper context.	3, 4
	2. Enter the new vocabulary words in the students' dictionaries.	3, 4, 5, 6
b. Give examples of how various products should be selected, used, maintained, stored and disposed of safely.	1. Encourage students to produce a puppet show for kindergarten or primary grades. Puppets may be constructed from cutout pictures, or from clean, empty plastic bottles and containers attached to sticks. Students may write a script in which puppets complain that they are useful products and generally "good guys," but that they are sometimes used in ways that can be dangerous.	3, 4
	2. Ask students where they and their families go to have products repaired. Have them list the typical types of repairs that are needed.	3, 4
	3. Develop a checklist for safely storing items at home. Students should investigate storage of: gasoline, empty or unused trunks, refrigerators, cabinets, etc. Have students make a diagram displaying proper storage of products in a particular room of the home.	3, 4
	4. Develop rhymes or short songs on possible hazards associated with im-	3, 4

COMPETENCY	ACTIVITIES	GRADES
	proper disposal of products. Have children illustrate these songs and sing them at a parent meeting.	
	5. Have students identify areas in their home and school where products are stored. Using magazine labels and small containers, construct a mobile of products which must be stored away from young children. Some examples to include are drugs, tools, scissors, cleaners and poisons.	3, 4, 5, 6
	6. Ask the class to list products which they would like to own, e.g., skateboards, swing sets, bicycles, chemistry sets. Divide the class into groups. Ask each group to choose one of the products to examine, investigate brands or varieties (by asking parents or using library resources), and make a selection. Allow groups to present their findings to the class.	5, 6
	7. Ask the students to bring in samples of products that they own. Set up an interest center with those products. For each product, have the children write a list of the factors that should have been considered when that product was selected. Using these same products, discuss proper maintenance, storage and disposal. Have students develop a guide on "Shopping With Safety in Mind." Items such as reading labels, looking for safety caps, etc. might be included.	5, 6
	8. Have students make advertisements for a product of their choice. They may write jingles, slogans or radio dialogues, or create a visual advertisement using original drawings, magazine pictures, etc. Make sure	5, 6

COMPETENCY	ACTIVITIES	GRADES
	they consider the use of the product, and direct their appeals toward a specific user audience.	
	9. Have students create a product and design a package or label for it. Make sure instructions for using the product safely are included along with appropriate hazard warnings.	5, 6
	10. Have students check their homes and identify products in need of repair. Conduct a workshop to repair one of the products that was brought to class. Invite parents to attend the workshop and work with their child.	6
	11. Invite a guest speaker from the community to talk about how garbage, paper, etc. are disposed. Encourage students to ask questions about the dangers of improper disposal.	3, 4, 5, 6
c. Describe the safety principles associated with selection, use, maintenance, storage and disposal.	1. Help children develop a "safety principle" checklist. Have them use this checklist daily at home for one week and report their findings to the class.	3, 4
	2. Have children write a one-act play that incorporates the safety principles. Put on this play for the school and for parents.	5, 6
	3. Hand out a newspaper account of an accident to each student. Have students circle words, phrases and/or sentences which might describe factors which caused the accident.	6

OBJECTIVE #3: RESPONSIBILITY

To encourage students to share their knowledge of consumer product safety with their families and friends.

COMPETENCY	ACTIVITIES	GRADES
a. Describe the role of the Consumer Product Safety Commission (CPSC).	1. Show a film on consumer safety. Describe the role of CPSC to students.	3
	2. Write and dramatize a television commercial that advertises the role of CPSC.	4, 5
	3. Role-play a consumer complaint call between a consumer who has had an injury and the CPSC operator. Students should provide all pertinent information regarding the product and the accident situation.	5, 6
b. Demonstrate the basic principles of consumer product safety to younger students.	1. Decorate a bulletin board for the school hallway or for a younger grade. Include a collage of photographs or drawings featuring products, consumers, and environments. Have product safety steps — selection, use, maintenance, storage, disposal — lettered down the sides of the board.	3,4
	2. Tour the school grounds with a younger grade. Point out the basic principles of consumer product safety on the playground, at the trash disposal, in the classroom, in the multipurpose room, etc.	5, 6
c. Alert the students' families to potential or existing hazards in the home.	1. Have students conduct a home safety check with parents' help or on their own. Share the results with their family and with the class.	3, 4
	2. Prepare an exhibit for parents' night or school open house, describing the basic principles of consumer product safety.	5, 6
	3. Write a notice for a neighborhood newspaper on the potential hazard of a frequently used product.	6

F. Teacher Resource Information

Accidents are responsible for more deaths in this country each year than all infectious diseases combined. Accidents may be unintentional and unexpected, but few happen by chance. Any combination of unsafe use, faulty product, or inappropriate environment might set the scene for tragedy. Products and environmental conditions can be improved, and human behavior can be changed. But how? Legislation and guidelines alone cannot stop dangerous use of consumer products. When consumer products are misused, even children cannot escape the painful, sometimes tragic consequences.

Product misuse is not inevitable. In many cases, information and education are all that accident prevention requires. Accidents are often caused by people, but they can also be prevented by people, even children. That message, repeated throughout this guide, is not only its major theme, but its *raison d'etre* as well. Without education, accident prevention among children is an unattainable goal. It is precisely that education that this guide is intended to help provide.

The U.S. Consumer Product Safety Commission

The U.S. Consumer Product Safety Commission (CPSC) is a federal agency responsible for protecting the public from unreasonable risks of injury associated with consumer products. Under the Consumer Product Safety Act, which established the Commission, CPSC monitors the safety of consumer products on the market; assists consumers in evaluating the comparative safety of consumer products; develops uniform standards for safety of consumer products; and promotes research into the causes and methods of preventing deaths, illnesses, and injuries related to consumer products.*

The agency also administers the Refrigerator Safety Act, the Federal Hazardous Substances Act, the Poison Prevention Packaging Act, and the Flammable Fabrics Act.

The Commission has set safety standards for such products as cribs, toys, rattles, matchbooks, and architectural glass and has banned such products as lead-containing paint, unstable refuse bins, two asbestos-containing products, and extremely flammable contact adhesives.

The Importance of Consumer Product Safety

The U.S. Consumer Product Safety Commission estimates that over 12 million children are injured yearly in product-related accidents.

Some of these injuries and deaths may be traced to accident-producing behaviors rather than to product deficiencies. Although children cannot be completely protected from defective products or daily environmental hazards, they can become more alert to the possibility of injury, and be encouraged to develop good safety habits. Children can protect themselves and their families by understanding the potential hazards associated with the products they commonly use, and learning to take simple steps to prevent injuries.

**The term "consumer product" has been used in this guide to refer only to those products subject to the authority of the CPSC. Under the Consumer Product Safety Act, CPSC does not have jurisdiction over drugs and cosmetics (except in the establishment of safety packaging standards), food, tobacco and tobacco products, medical devices, motor vehicles, boats, airplanes, firearms, alcohol, or pesticides.*

Basic Safety Procedures

Consumer product safety is a three-way interaction of the consumer, the product and the environment. There are five basic safety procedures that reduce the risk of accident:

SELECTION. Selection involves making a decision on safety in a product — the brand, quality, and performance. It involves the why of doing something; who is using the product; where it will be used; how it is to be used; and identification of potential hazards.

USE. Use unites the product and the user. Accidents usually occur in the interaction between the user and the product. Proper use is the key to product safety. For example, one should read all labels and instruction manuals carefully; use a product only for its intended purpose; use a product in the right environment and use protective devices when provided.

MAINTENANCE, RETROFIT AND REPAIR. Maintenance involves keeping the product in safe working order to minimize injury. Good maintenance is inspecting product parts that may need replacing due to wear. Retrofit is upgrading a product to new performance and/or safety standards; this involves adapting a product to reduce the risk of injury during use. Repair implies restoring the product to as near its original condition as possible to assure continued safety.

STORAGE. Storage means protecting the product; improper storage can affect a product's performance. It also means putting the product away to use at a later time, even hiding it to make sure that it does not fall into the wrong hands, for example, a child's.

DISPOSAL. Disposal means getting rid of

a product that is no longer used, needed, or wanted, in such a way that the product cannot become a potential hazard. For example, good disposal practices include keeping trash disposal containers tightly covered, and discarding medicines when they are no longer necessary by pouring them down a drain and rinsing out the containers.

Dangerous and Hazardous Products

Students will need to recognize the ways in which products may be dangerous and gauge the risk in their use of these products accordingly. Some products are inherently dangerous, but have acceptable risk because of their use. Knives must be sharp to cut efficiently; ladders must be long to reach high places. A safety-conscious consumer learns the risks associated with a product and decides whether he or she is willing to assume those risks.

Other products may become dangerous when they have become faulty. A TV set with a damaged cord can start a fire or cause a fatal electric shock; a skateboard with a cracked wheel can cause a fall. Such dangerous products are too risky and should be repaired by a qualified repair person or discarded.

Finally, some products are classified as hazardous and may require special labeling or instructions designed to alert consumers to potential dangers and to provide information on proper use. The Federal Hazardous Substances Act, one of the five acts administered by CPSC, sets forth certain criteria to determine whether a product is a hazardous substance: Is it toxic, flammable, corrosive, an irritant, a strong sensitizer, or can it generate pressure and thus cause substantial personal injury or risk? If a product is determined to be a hazardous substance, it must be labeled in accordance with the Federal Hazardous Substances Act, so that consumers will be alerted to its potential dangers.

Many potential hazards, such as electricity, high surface temperatures, sharp edges, or poisonous chemicals appear in a broad range of products. These and other hazards can be divided into four general categories: thermal, electrical, mechanical, and chemical.

THERMAL HAZARDS. Thermal hazards can develop from fire and heat sources. Some of the hazards are obvious, such as getting clothing too close to the flame of a gas stove, or dropping a match on a bathrobe. But others may be less obvious, such as flammable vapors from gasoline being ignited by the distant pilot light of a gas water heater. Hot cooking utensils and even hot water in a bathtub can cause burns.

ELECTRICAL HAZARDS. Electrical fire hazards can develop when circuits are overloaded (as when too much current flows through wiring) or when worn cords or improper connectors are used. Electrical shock hazards can develop when current leakage occurs (because of inadequate insulation, or an appliance malfunction), and current flows through the body. The most common injuries resulting from accidents involving electrical hazards are burns and shock, both of which can have lasting, damaging physical effects and can be fatal.

MECHANICAL HAZARDS. Mechanical hazards are presented by rotating parts, sharp edges, sharp points, poorly balanced products (such as some high chairs), and slippery walking surfaces. These hazards may be the most frequent, since so many products can cause falls or cuts. Injuries resulting from accidents involving mechanical hazards range from relatively minor cuts, bruises, and fractures, to severe injuries and death. After automobile accidents, falls are the most frequent cause of accidental death. These falls often result from mechanical hazards in and around the home.

CHEMICAL HAZARDS. Chemical hazards may be presented by products that are toxic if ingested, inhaled, or absorbed through the skin. Some may be corrosive or an irritant to eyes or skin. Some of these products may be flammable or may explode through heat or other means. In addition, some may contain carcinogens.

Household products, such as solvents or cleaners, for example, may contain ingredients that present chemical hazards.

The Consumer's Responsibility In Preventing and Controlling Accidents

Even young students can begin to appreciate the risks and hazards associated with some products, and their responsibility as consumers to prevent and control accidents.

Many consumer letters and hotline calls to CPSC relate stories of accidents possibly associated with the way consumer products are used. Injury reports in Commission files also reveal that improper use contributes to numerous serious injuries that require hospital emergency room treatment. The following factors are frequently involved in product-related accidents:

IMPROPER MIXING. Some products are hazardous if mixed together. For example, chlorine bleach mixed with ammonia, toilet bowl cleaners, or drain cleaners may

release hazardous gases that can be fatal. Although chlorine bleach must be labeled clearly with a warning not to mix it with ammonia or toilet bowl cleaners, some people either do not read or disregard the label.

OVER-USE. Some people think that if a small amount is good, then a large amount must be better. In many cases, that kind of logic can lead to hazardous situations. Directions should always be followed and the recommended amount used.

HASTE. It is tempting to race through preliminary steps in order to use a product and get a job done. However, if speed means overlooking a loose part on a bicycle or riding on a skateboard without first checking for cracks or holes in the pavement — one can end up with a serious injury. Everyone should take the time to follow all preparatory steps.

LACK OF MAINTENANCE. Failure to repair broken products and lack of maintenance are important contributors to serious injuries. Wobbly bicycle wheels should be aligned, and broken straps on roller skates should be replaced before the equipment is used. Watch out for warning signals such as electrical sparks, flickering lights, or gas odors, and call for qualified service immediately. Complex machines, gas appliances, and electrical appliances should be repaired by experts.

IMPROPER STORAGE. Highly flammable liquids may produce heavier-than-air vapors that can travel invisibly along the floor and be ignited by a distant pilot light in a gas furnace or gas water heater, by a lighted cigarette, or by sparks from an electric motor. Therefore, flammable liquids should be stored outside living quarters, away from any ignition source. Drugs and other poisonous household products should be securely closed and stored out of children's reach, preferably in a locked cabinet. Young children are resourceful and can get into cabinets that adults think are sufficiently safe. Products should be kept in their original containers and clearly labeled in order to prevent mistaking them for food or beverages. Mechanical or electrical appliances should be stored in a dry place to prevent rust or other deterioration. Aerosols, too, should be stored away from wet or damp areas; rust can lead to rupture or leakage of the aerosol contents.

G. Unit Glossary

NOTE: These are not meant to be technical definitions. They are defined in terms that 3rd through 6th grade students can understand.

Consumer — A person who uses various products.

Consumer Product — An item used in every day life, e.g., radio, bicycle, medicine, toy.

CPSC — The Consumer Product Safety Commission. A Federal Agency that helps protect consumers from products that may be dangerous.

Disposal — A means of getting rid of a product that is no longer used, needed, or wanted in a way that is not dangerous.

Environment — The world around us (home, room, neighborhood, town).

Hazard — A danger.

Installation — A way of setting up a product or putting it together so that it can be used.

Label — A tag on a product that provides information on the content and/or instructions for proper use of a product.

Maintenance — A way of keeping products in good working order and repairing them as needed.

Prevention/Control — A means of trying to keep something from happening.

Regulation — Rules set by law or by a governing agency.

Responsibility — A way you can prevent product-related accidents and reduce injuries.

Risk — A chance — something that could be dangerous.

Selection — A decision about the safety of a product; making a choice when buying a product.

Storage — A safe place for a product when it is not being used.

Use — What people do with products. Safe use of a product means reading labels and instructions carefully and using the product only as directed.

Appendix A

Consumer Product Safety Diagnostic Quiz

1. Do you buy products/things with your own money? Yes _____ No _____
2. Put a check in front of the people you think are consumers:
   _____ your parent _____ a next-door neighbor _____ the school principal
   _____ the mailman _____ you _____ your teacher
   _____ your doctor _____ the President of the United States
3. Check the consumer products in your home.
   _____ bicycles _____ baby cribs _____ glass doors/windows
   _____ chairs/tables _____ swings/sliding boards _____ baseball/football equipment
   _____ matches _____ clothing
   _____ toys _____ lawn mowers _____ paints
   _____ kitchen ranges/stove _____ skates _____ drain cleaners
   _____ skateboards _____ toasters
   _____ televisions _____ medicines
4. Do you or your parents read instructions on products? Yes _____ No _____
5. What do you or your parents do with instructions that come with products?
   _____ read them and throw them away _____ read them each time you use the product
   _____ ignore them _____ keep them in a drawer and use them occasionally
6. Have you or someone you know ever had any of these? (Check them)
   _____ cuts or scratches _____ burns _____ sprains
   _____ electric shocks _____ bruises
   _____ fractures
   _____ poisonings
7. Check the ways that injuries like these could be prevented.
   _____ read product labels carefully.
   _____ be sure you know how to use a product before you use it.
8. Match the consumer products with the injuries. (More than one product may be associated with an injury and vice versa.)

cuts _____	1. drain cleaners, furniture polishes
fractures _____	2. matches, ovens and ranges
burns _____	3. toys
sprains _____	4. skates, skateboards
poisonings _____	5. swimming pools
bruises _____	6. stairs, porches
drownings _____	7. playground equipment
electric shocks _____	8. extension cords
	9. lawn mowers, hedge trimmers
	10. football and baseball equipment

Appendix B

Sample Stories of Typical Accidents

Have students read the following stories and discuss what caused the accident:

Thirteen-year-old Jim was roller skating on an indoor rink when another skater close in front of him stopped abruptly. Jim ran into the other skater, fell, and fractured his right wrist.

Two young children were injured in a fire caused by an overloaded extension cord in the family's home. A lamp, a television set, and an electric heater had all been plugged into a single light-duty extension cord.

While trick-or-treating on Halloween, a child slipped and fell on a broken porch step and cut her hand.

Mrs. B. bought a stuffed animal for her 6-month-old son. One of the eyes fell off the animal and her son swallowed it..

Appendix C

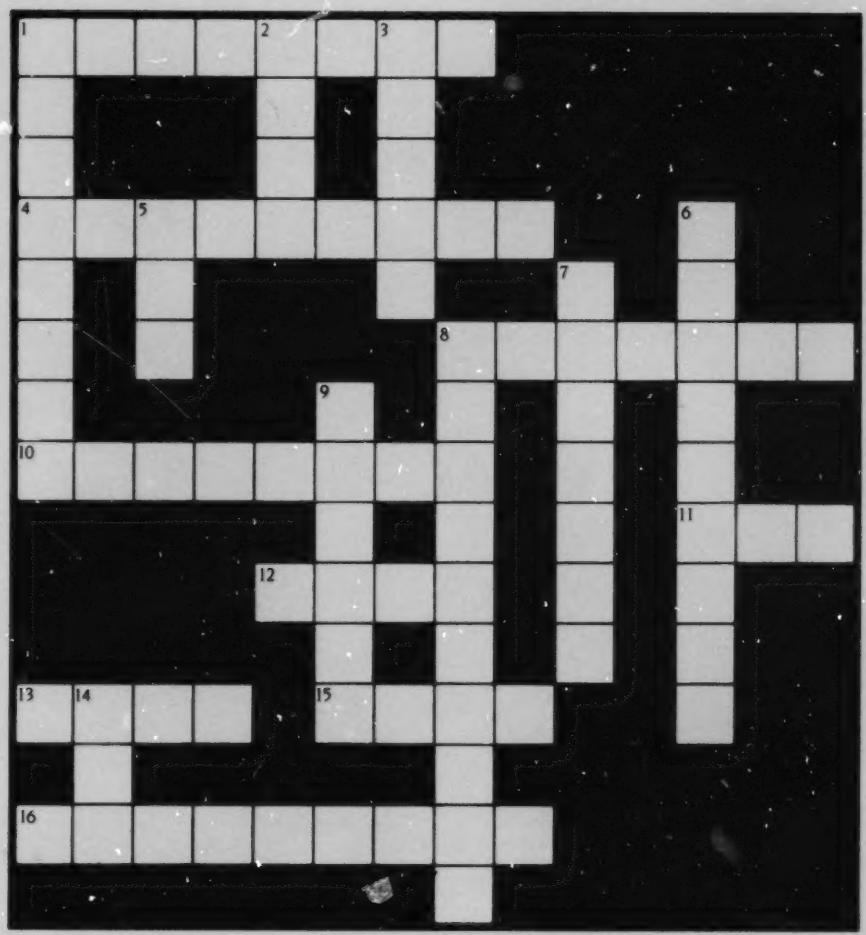
Identification of Hazards

SITUATION/RISK	HAZARD	POSSIBLE HARM	PREVENTION OR CONTROL
Young child playing with matches.	Starting a fire or setting clothes on fire.	Burn	Place matches out of child's reach.
Playing with firecrackers.			
Taking someone else's medicine.			
Using a broken toy.			
Riding your bicycle behind a bus.			
Doing stunts on the playground.			
Wearing a Halloween mask that covers your eyes.			
Touching an electrical cord when your hands are wet.			

Appendix D

CONSUMER PRODUCT SAFETY CROSSWORD PUZZLE

(Sample)



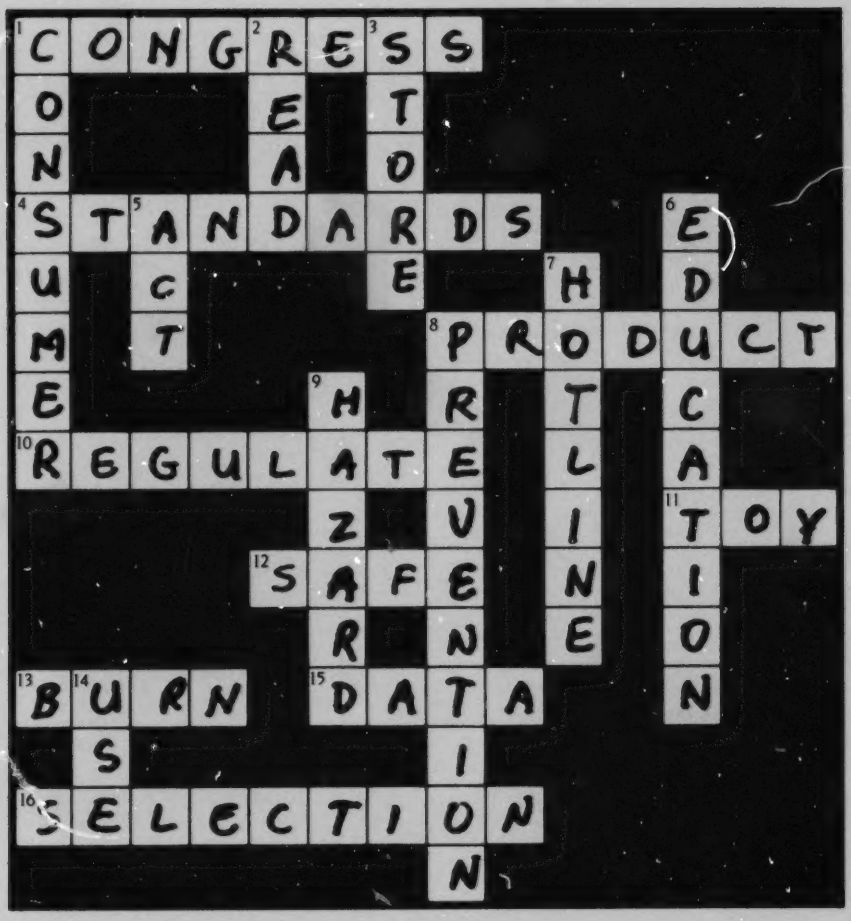
Across

1. U S. lawmaking body which established the CPSC in 1972
4. Rules for product safety which manufacturers must meet
8. Merchandise or item used by consumers; answer to a multiplication problem
10. To control or direct according to a rule
11. Child's plaything (which must be checked for safety)
12. Free from danger or risk
13. To hurt skin as a result of heat or fire
15. The factual information which scientists collect through observation and experimentation
16. The choice of a product based on use, user, purpose, and environment

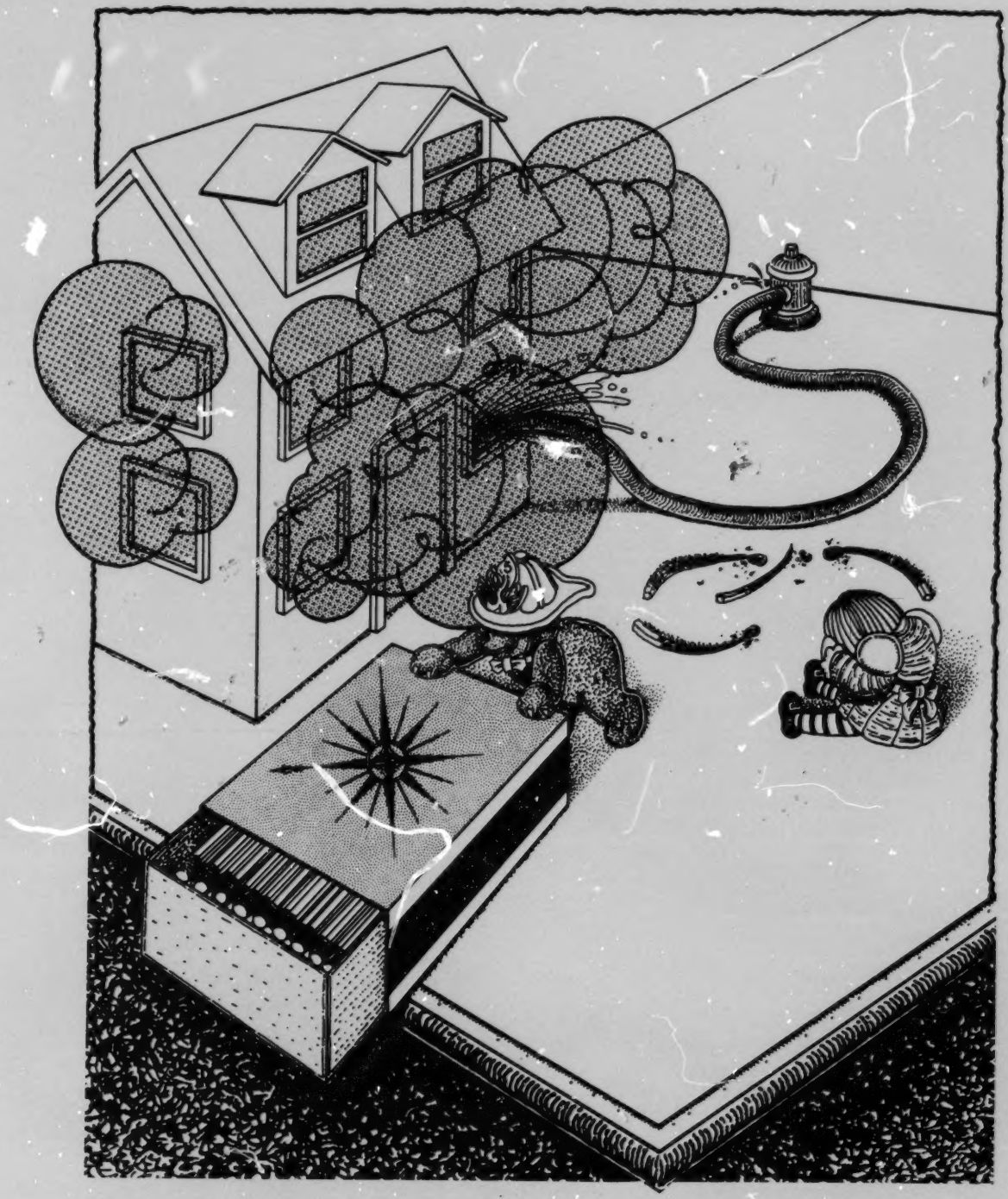
Down

1. User of product
2. What we must do with instructions before using a product
3. To put a product safely away until it is needed again
5. The Consumer Product Safety _____; a law passed by Congress to protect consumers
6. Schools and teachers provide this
7. Special phone number you can call for consumer product information
8. What consumer product safety is all about; keeping accidents from occurring.
9. A danger, risk, or chance of injury
14. To employ or work with a product

Answer Key


1 CONGRESS
2 R
3 S
O E T
N A O
4 S T 5 A N D A R D S 6 E
U C 7 H D
M T 8 P R O D U C T
E 9 H R T C
10 R E G U L A T E L A
Z V I 11 T O Y
12 S A F E N I
R N E O
13 B 14 U R N 15 D A T A N
S I
16 S E L E C T I O N
N

Unit 2 **"Ouch! It's Hot"**
Home Fire Safety



A. Introduction

The purpose of Unit 2, Home Fire Safety, is to provide students with information about the causes of home fires, how these hazards can be reduced or prevented, and how to respond if a fire occurs.

Fire is one of our nation's major safety problems. Each year fire causes thousands of deaths, hundreds of thousands of injuries, and billions of dollars worth of property loss. Over 7,500 people die and 300,000 are injured by fire annually. More lives and more property are lost through fire than through all natural disasters combined. Fires are the second most frequent cause of accidental deaths in the home. The very young and the very old die from fire more frequently than people in other age groups.

Most fires and fire-related injuries can be prevented. Many result from lack of information about the proper use of flammable materials and ignition sources. Education, therefore, can significantly reduce this major health and safety problem.

B. Principle

Accidental fires can be prevented. Students must learn how they are caused and prevented. When fires do occur, students must know how to escape safely and call for help.

C. Objectives Overview

1. To identify the frequent causes of home fires.
2. To provide students with information about the proper selection, use, storage, and disposal of flammable fabrics, liquids, and ignition sources.
3. To describe the role of smoke detectors, fire drills and home escape plans in reducing fire-related injuries.
4. To describe proper emergency first aid procedures when fire occurs.

D. Suggested Discussion Questions

RISK

1. How do most home fires start?
2. What risks do the following situations involve?

   a young child playing with matches

   sticking your hand in a fireplace

   leaving the home when something is cooking on the stove

HAZARD

What could be dangerous in these situations?

keeping matches near the stove

keeping a can of gasoline in the garage

playing with a cigarette lighter

sitting too close to the fireplace or kitchen stove

PREVENTION/CONTROL

1. What could your family do to prevent fires in:
   the living room
   the kitchen
   the garage, basement or storeroom
   the bedroom
2. What is the safest thing to do if your clothes catch fire? If someone else's clothes catch fire?
3. How can smoke detectors save lives?
4. Why is a family escape plan a good idea?
5. How can a fire drill help prevent injuries in a real fire?

RESPONSIBILITY

1. What could you do to fire-proof your home?
2. What should you do if there is a fire in your home? Whom should you call?
3. What are two things you should do for a burn until help arrives? What are two things you should never do for a burn? Why?
4. How could you help younger children learn about fire safety?
5. What could you tell your parents about fire safety?

E. Activity Charts

NOTE: *The approximate grade level for each activity is noted. However, teachers are encouraged to adapt the activities to the learning level/abilities of their students.*

OBJECTIVE #1: RISK/HAZARD

To identify the frequent causes of home fires.

COMPETENCY	ACTIVITIES	GRADES
a. Describe how most home fires start including major sources of ignition.	1. Construct a bulletin board depicting common ignition sources and combustible materials. Use the bulletin board display as a reference for discussion of the following terms: ignition source, and combustible and flammable materials.	3, 4
	2. Have students dramatize fireplace and stove safety: first, have students	3, 4

COMPETENCY	ACTIVITIES	GRADES
	make a fireplace or stove using a large cardboard box (the kind that stoves or refrigerators come in). Then, give them scenes to act out, e.g., where to sit near a fireplace; what could happen if you get too close, etc. Have students practice the STOP, DROP and ROLL technique for extinguishing burning clothing.	
	3. Have the children arrange a field trip to a local fire house to find out how firemen detect the causes of fire. Ask a local fire fighter to describe where and how fires occur and what precautions to take.	5, 6
	4. Have students collect newspaper and magazine articles; or note radio or television programs on accidental fires. Ask them to identify the possible causes of these fires, and how they could have been prevented.	5, 6
	5. Have students make up crossword puzzles using sources of ignition for clues or answers. (See Appendix A.)	6
	6. Ask students to name all the items in their home that could burn. Have them make a chart to categorize the items into flammable fabrics, liquids, furniture, etc.	3, 4, 5, 6
	7. Ask students if they know of anyone who has been accidently injured while playing near a fireplace, wood burning stove or oven. Could the accident have been prevented? How? (If students have no experience with, or have never heard of fireplace or stove-related accidents, use one of the following incidents as the basis for a general discussion: After reading each incident, ask the class how the accident might have been prevented.)	3, 4, 5, 6

COMPETENCY	ACTIVITIES	GRADES
	Five-year-old Stevie was standing too close to the stove and his clothing ignited. He received serious burns over 80% of his body. Mr. Allen used gasoline to restart a smoldering fire in the fireplace. The gasoline vapors ignited explosively and Mr. Allen was burned severely.	
	8. Review the guidelines for safe use of fireplaces and stoves. (See teacher resource information.) Have students illustrate the safety procedures and prepare a bulletin board display.	3, 4, 5, 6
b. Conduct a safety check of areas in the home where accidental fires frequently occur including the following: • Kitchen • Storage Areas • Workshop • Garage • Bedroom, den, living room.	1. Have students draw pictures illustrating potential fire hazards in the home. Then, discuss how these hazards could be corrected.	3, 4, 5, 6
	2. Have students play a guessing game to identify fire hazards at home and at school, e.g., each student acts out the part of a fire hazard as is done in charades.	5, 6
c. Conduct an inspection of the school facility and identify areas where accidential fires might occur.	1. Divide students into small groups to devise a safety check list for their home and school. Discuss the check list with parents. Have students request their parents' assistance in conducting a home safety check. Discuss the results in class.	3, 4, 5, 6
	2. Using the check list, tour the school and look for any fire hazards that may exist. Discuss the results in class. If hazards exist, have students compile a letter to the Principal, detailing the hazards.	5, 6

OBJECTIVE #2: PREVENTION/CONTROL

To provide students with information about the proper selection, use, storage, and disposal of flammable fabrics, liquids, and ignition sources.

COMPETENCY	ACTIVITIES	GRADES
a. List the do's and don'ts of safety when using matches, lighters, space heaters, stoves and fireplaces.	1. Review the do's and don'ts of safety (See Teacher Resource section.) Have students develop safety jingles or slogans and create safety posters.	3, 4, 5, 6
b. Describe how flammable products should be properly stored and disposed.	1. Ask students to make a list of the product labels in their clothing and those of other family members. Discuss the role of labels and what they tell us about fabrics and flammability.	3, 4, 5, 6
	2. Review the home safety check list (see Appendix B) with students. Then, develop a check list on where flammable materials are stored in the home. Encourage students to complete the check list with their parents.	3, 4, 5, 6
	3. Discuss the proper methods of disposing of flammable liquids. Invite a fire fighter as a guest speaker to discuss this topic.	5, 6
	4. Study the history of man's use of fire — what he did before matches were invented and how people heated homes and cooked. Ask the class which methods they think are safer — the modern ones or the older ones? Discuss some of the dangers associated with each. Have the students draw pictures or create a bulletin board illustrating the points brought up in the discussion. An exhibit of pictures of ranges, fireplaces, or other heating and cooking devices could also be planned.	6

OBJECTIVE #3: PREVENTION/CONTROL

To describe the role of smoke detectors, fire drills and home escape plans in reducing fire-related injuries.

COMPETENCY	ACTIVITIES	GRADES
a. Tell their parents why smoke detectors are valuable, how they should be tested, and where they should be located.	1. For students who have smoke detectors at home, have them ask their parents to check to see if they are in good working order.	3, 4, 5, 6
	2. With actual models, if possible, or with pictures, tell students about the importance and use of smoke detectors. If there are smoke detectors in the school, ask the custodian to demonstrate how they work.	3, 4, 5, 6
	3. Have students develop a flyer that describes the benefits of smoke detectors and illustrates where they should be located in the home. Send the flyer home to parents.	5, 6
	4. Have the class research the laws in their community about placing smoke detectors in homes, apartments, and public places. Ask students to keep a log of public places they visit that have smoke detectors. Report the findings in class.	6
b. Develop with their family an emergency escape plan to include specific fire escape routes and a meeting place for all family members.	1. Have students draw diagrams of their home and plot out an escape route in case of fire. In reviewing the diagrams, emphasize the emergency procedures: • Get out fast • Stay low • Feel the door before opening • Agree on a meeting place.	3, 4, 5, 6

OBJECTIVE #4: RESPONSIBILITY

To describe proper emergency first aid procedures when fires occur.

COMPETENCY	ACTIVITIES	GRADES
a. Identify whom to call if there is a fire.	1. Invite a guest speaker from the local fire department to talk to the class about how to report fires. Then, have students prepare skits on the right way and the wrong way to report fires.	3, 4, 5, 6
	2. Encourage students to post the emergency number for the fire department near their home telephone; as an art project, have students make emergency number stickers or posters for the home. Next, have them look for emergency numbers posted in the school, the library, and in another public building.	3, 4, 5, 6
	3. Practice calling for help in case of fire. Have students role play phone calls to the fire department; include information on location of the fire.	3, 4, 5, 6
b. Tell what to do if their clothing catches fire.	1. Demonstrate the STOP, DROP, ROLL technique to students and have them practice. Let the students teach younger ones in the school the technique. Take pictures of the demonstration to post in the room.	3, 4, 5, 6
c. Demonstrate how to treat a burn until help arrives.	1. Invite the school nurse or a parent who is a medical practitioner to teach the class first aid in case of burns. Use dolls to demonstrate.	3, 4, 5, 6
d. Share knowledge of fire safety	1. Have the class make fire safety posters for the school, emphasizing whom to call in case of fire; what to do if clothing catches fire; and how to give first aid until help arrives.	3, 4, 5, 6
	2. Prepare a play, puppet show and/or bulletin board display to teach these safety principles to a younger grade.	5, 6

F. Teacher Resource Information

Because of the high incidence of home fires, this section of the unit covers, in some detail, how home fires start and how they can be prevented.

Young people are frequently the victims of home fire accidents. The major objective of the CPSC education program for young children is four-fold:

To develop appropriate attitudes and behavior patterns about fire.

To modify unsafe attitudes and behavior patterns involving fire safety;

To facilitate the carry-over of newly learned attitudes and behavior toward fire safety activities outside the school; and

To encourage children to communicate newly learned attitudes and behavior about fire safety to family and friends.

To accomplish this, children must understand how home fires start, how they can be prevented and what safety precautions can greatly reduce the incidence of home fires. These areas are discussed next.

How Most Home Fires Start

It takes three things to start a fire: OXYGEN exists in our environment naturally. Fire prevention, therefore, focuses on recognizing IGNITION SOURCES and controlling COMBUSTIBLE MATERIAL.

IGNITION SOURCES

MATCHES. Matches are one of the most familiar ignition sources, but they are only one of many that cause accidental fires. Moreover, there is more to know even about matches than the important rule to keep them out of the reach of children.

There are two general types of matches: the strike-anywhere match and the strike-on-the-box or safety match. The strike-anywhere match has all the chemicals needed for ignition compounded together on its bulb. The strike-on-the-box type has only one of the necessary chemicals on its bulb. The other chemical is on the "striker" strip of the box or book. This kind of match is called a safety match, because it is very difficult to ignite it except on the box or book itself. Book matches are of the strike-on-the-box type. In case the matchbook cover is not closed, federal regulations now require that the striking surface be placed on the back of the match book to keep the struck match from igniting the rest of the matches.

LIGHTERS. A lighter can flare up unexpectedly when it is ignited. To avoid being burned, users should always point the lighter away from their faces and clothing. Gas or butane lighters sometimes have a very high flame and must be used with extreme caution. In addition, lighter fluid is flammable. If it drops onto hands or clothing, and is not cleaned off immediately, it may be ignited by the lighter or when placed near an ignition source.

PILOT LIGHTS. Pilot lights may not seem like a potentially hazardous source of ignition because their flames are usually small and out of the way. However, vapors from flammable liquids can travel invisibly

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OXYGEN + IGNITION SOURCE + COMBUSTIBLE MATERIAL ♦ FIRE!

along the floor to a pilot light, which will ignite them into a fire trail back to their liquid source.

OVERLOADED CORDS AND CIRCUITS. Electrical fires can be caused by overloads on cords or circuits that were not intended to carry as much current as sometimes flows through them. "Ampere" is the term used to measure the amount of current flowing through a wire. Lighting and small appliance circuits are generally fused at 15 and 20 amperes. Individual outlets are usually rated at 15 amperes, and cords may be rated 10, 13 or 15 amperes, depending upon the size of the conductor. If a 10-ampere electric frying pan, a 9-ampere coffee maker, and a 4-ampere blender are all plugged into the same outlet and turned on, their total 23 amperes may overload the 15 ampere circuit and/or extension cord.

The excessive current should blow the fuse or open the circuit breaker, shutting off the current and thus preventing damage. However, if the fuse in the box is larger than that intended for the circuit, the current will continue to flow, and the overloaded outlet and the house wiring may heat up to the point that they can start a fire. Electrical fires can also be caused by "short circuits." A short circuit occurs when the electrical current finds a path back to its source through a lower electrical resistance than the load or appliance in use. When the insulation is broken or a connection is faulty, the current may pass to a nearby conductor instead of flowing all the way through the circuit. Some short circuits are capable of producing an electrical arc or high temperature that can ignite the insulation on the cord or any nearby combustible material.

Any flame or source of high heat can also be an ignition source. Stoves, space heaters, and fireplaces all cause many accidental fires in the home.

SPACE HEATERS. There are several types of space heaters: free-standing electric or kerosene space heaters; gas space heaters (both vented and unvented); and oil and woodburning space heaters.

Gas, kerosene, oil and woodburning space heaters can give off carbon monoxide. If a room becomes filled with carbon monoxide, a lethal atmosphere is produced and carbon monoxide poisoning can result. Therefore, it is important to use unvented heaters in well-ventilated areas, and to check the vent pipes of vented heaters to make sure they are properly connected, and free from blockage or leakage.

Space heaters can create a fire hazard if objects such as upholstered furniture, clothing, curtains, or paper come into contact with them, or if they are accidentally tipped over; keep heaters away from combustible materials. Be sure that if an extension cord is required for a portable electric space heater, only a heavy duty extension cord is used.

FIREPLACES. The primary hazards of a fireplace are flying sparks, fire, smoke, gases and chimney fires due to creosote build-up. Clothing may ignite when the wearer stands too near the fire. Sparks from the fire land on and ignite furniture and carpets when there is no firescreen.

KITCHEN STOVES. Cooking stoves or ranges present fire and burn hazards as well. Youngsters and the elderly are most frequently the victims of burns resulting from clothing ignition. Avoid long, loose sleeves which might ignite on a burner, or catch on a pan, spilling hot contents.

Combustible Materials

A home is filled with materials and products we use everyday. These household materials can be potential hazards because they burn if ignited. They include:

FLAMMABLE LIQUIDS — Gasoline, kerosene, lighter fluid, some paints, paint thinners, charcoal starter, and alcohol-based products, such as nail polish remover, model airplane cement and rubber cement.

FLAMMABLE FABRICS — Natural and synthetic textiles, especially thin, lightweight fabrics used in blouses, shirts and dresses, adult pajamas, nightgowns, and robes. (*Note*: The Flammable Fabrics Act Standards, administered by the Consumer Product Safety Commission, require that all children's sleepwear up to size 14 be flame-resistant).

UPHOLSTERED AND OTHER FURNITURE — Stuffed chairs and sofas made of various materials which produce toxic gases, such as smoke, carbon monoxide, or other toxic gases. Mattresses and bedding are often the first things ignited in two out of five residential fires.

Preventing Fires

Children should be taught basic safety habits that can help prevent home fires. Teachers should encourage students to follow these safety tips and share them with family and friends:

Don't use matches!

Keep matches away from younger brothers and sisters.

If lighter fluid or another flammable liquid accidentally spills on you or on your clothes, wash it off immediately.

Don't get too close to space heaters, fire-

places or kitchen stoves and ovens.

Remind your parents to store gasoline in a proper safety container, outside the house in a locked area.

Stay away from lighters and lighter fluid.

Caution any smokers in your family not to smoke while sitting in upholstered furniture when drowsy, drinking heavily, or under medication.

Keep sleeves and shirt hems away from stoves, open flames, heaters, or any source of ignition.

Never light a fire in the fireplace or wood-burning stove.

Never lean over a fireplace or put your hands inside for warmth.

Remind your parents to inspect fireplaces and chimneys frequently and keep them in good condition.

Additional Safety Precautions To Take

Understanding how fires start will enable students to identify potential risks; in addition, students can learn additional safety precautions including the following:

use smoke detectors;
practice family fire drills; and
plan an escape route.

SMOKE DETECTORS — Many deaths and injuries are actually caused by smoke and gases, often produced before flames appear. Smoke spreads faster than flames. Most victims die from inhaling smoke long before heat or flames reach them. The safest warning method is one or more smoke detectors, correctly placed and in good working condition. A smoke detector senses the presence of smoke and sounds a warning before the fire spreads too far.

There are two types of smoke detectors available for home installation: *Ionization Chamber Detectors* which sense electrically charged particles (ions) in the air. When smoke enters the chamber, its particles attach themselves to the ions and lower the current, setting off the alarm; and *Photoelectric Detectors* which use a light source and a light cell. When the light strikes smoke particles, it scatters and reflects into the cell, setting off the alarm. Some newer models offer both ionization and photoelectric sensors. Smoke detectors should be located on each level of the home, and placed near sleeping rooms. A smoke detector should not be placed near ranges, ovens, or other cooking appliances since airborne grease and cooking fumes may cause it to give false alarms; nor should it be placed near heating or air conditioning vents, since these may blow smoke away from the detector while it spreads throughout the house.

Most detectors give warning when a fresh battery is needed, but if more than a year goes by with no apparent battery failure, it should be changed anyway.

Students should encourage their parents to test smoke detectors. Once every month, the detector should be tested by holding a candle six inches under it. If it is an *ionization detector*, let the flame burn. To test a *photoelectric unit*, extinguish the candle and let visible smoke drift into the detector. Heavy tobacco smoke will also work. Within twenty seconds the unit's alarm should begin to sound. As soon as the alarm sounds, fan the smoke away from the detector. Soon the detector will become silent, and one can walk away knowing it's still on guard. Using real smoke is more dependable than pressing the "test" button found on many older smoke detectors. In some older units, the button only activates the warning horn or buzzer, and does not tell whether the detector circuit itself is working. Some newer detectors have more refined functional test systems which simulate the presence of smoke in the chamber. These don't need to be tested with real smoke. The package or instructions should be checked to see if the detector has this feature.

Some authorities suggest testing every two weeks. This should not reduce battery life significantly. Testing more often than this may diminish the battery's endurance.

FAMILY FIRE DRILLS — Home fire drills may sound silly, and a serious fire is no fun to talk about, but students should learn that a little time spent selecting escape routes and practicing what to do if the detector goes off may save lives.

ESCAPE ROUTE — There should be two exits from the house. If bedroom windows are too high above the ground for safe jumping, rope or chain safety ladders may be purchased. An alternative way out, in case the stairway or first floor is blocked by fire or smoke, should be worked out in advance.

In an apartment, escape instructions should be posted by the building management. If none are posted, the local fire department should be contacted.

In a fire drill, a meeting place safely outside the home should be agreed upon to "count noses," and to be sure everyone was able to leave the house. Most smoke rises, so passing safely through a smoke-filled hall or room involves keeping down, even crawling on hands and knees if necessary. In a fire, always feel a door before opening it. If the knob or door panels are hot to the touch, fire may be just outside. Escape should be by the window instead.

Only after the firefighters have reported that the fire is fully extinguished and the structure is sound should one return to the house or apartment.

Reporting Fires

The safest way to fight a fire is to leave it to the experts. Therefore, students must learn how to report home fires after they escape. They need to know the phone number of their local fire department and how to call and give the correct address and location of the fire within the house.

First Aid Procedures

There are basic first aid procedures that students should learn which will reduce the seriousness of fire-related injuries until professional help arrives. If your clothing catches fire, DON'T RUN — STOP! DROP to the ground and ROLL back and forth to smother the flames. If your skin is burned, cool the burn by immersing the area or holding it under cool, running water. Never put grease, butter, or ointment on a burn; try to clean it. Never pull clothing over a burn nor try to remove pieces of cloth sticking to it. Never break burn blisters. Even small burns can become serious if not properly treated. A burn should be covered with a clean, dry sheet to protect it.

G. Unit Glossary

NOTE: These are not meant to be technical definitions. They are defined in terms that 3rd — 6th grade students can understand.

Combustible — Something that will burn when ignited.

Emergency Phone Numbers — People to call when there is an emergency. In case of fire, the fire department.

Escape Plan — A plan for your family that tells how to leave the house safely if there is a fire.

Extinguish — To put out (e.g., a fire).

First Aid — Medical help for an injured person.

Flame-Resistant Fabrics — Fabric that will stop burning when the ignition source is removed.

Flammable — Something that will burn easily.

Smoke Detector — A device that sets off a warning alarm when there is a fire.

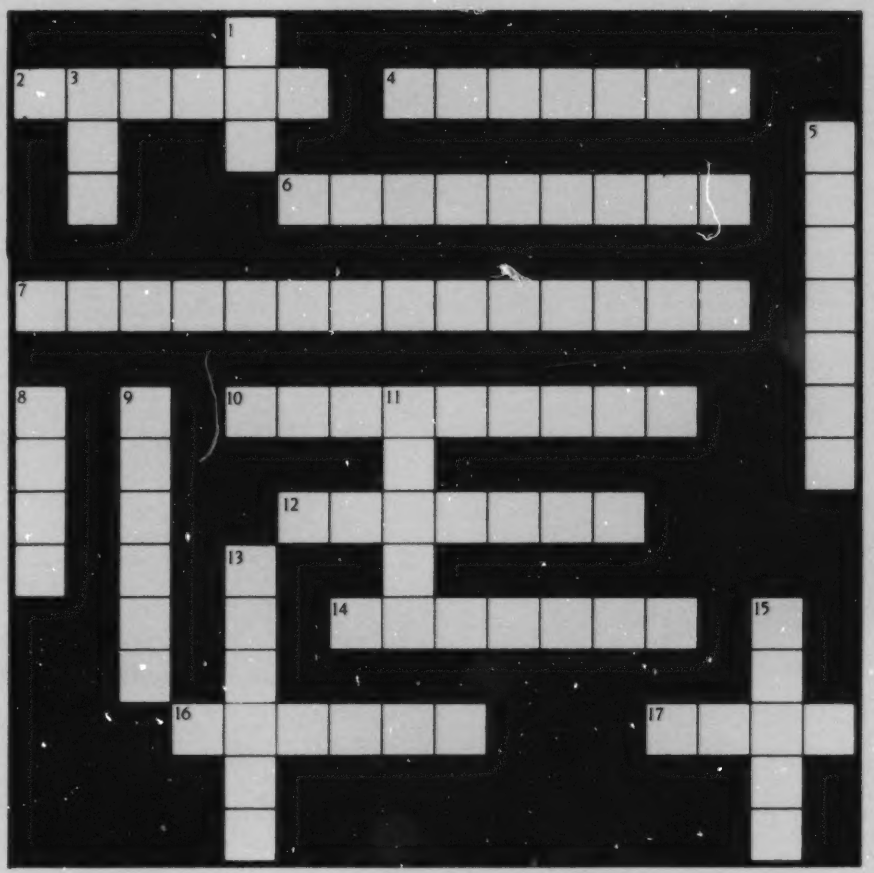
STOP! DROP! ROLL! — A way to put out clothes on fire. If someone's clothing catches fire, they should *Stop* moving. *Drop* to the ground and *Roll* back and forth to put out the flames.

Ignite — To set on fire.

Appendix A

MATCH CROSSWORD

DIRECTIONS: Select the correct words from the list below to fill in the blanks. Then complete the crossword.



ACROSS

2. Make sure a match has _____ before you throw it away.
4. Don't use matches near _____ that are flammable.
6. Pay close _____ when you are striking a match.
7. "_____" matches will light when struck on almost any surface.
10. Never light matches where _____ liquids are being used or stored.
12. Keep _____ out of the reach of young children.
14. _____ family members and friends should be reminded about match safety.
16. Colorful _____ on match books will attract young children.
17. Strike a match _____ from your body.

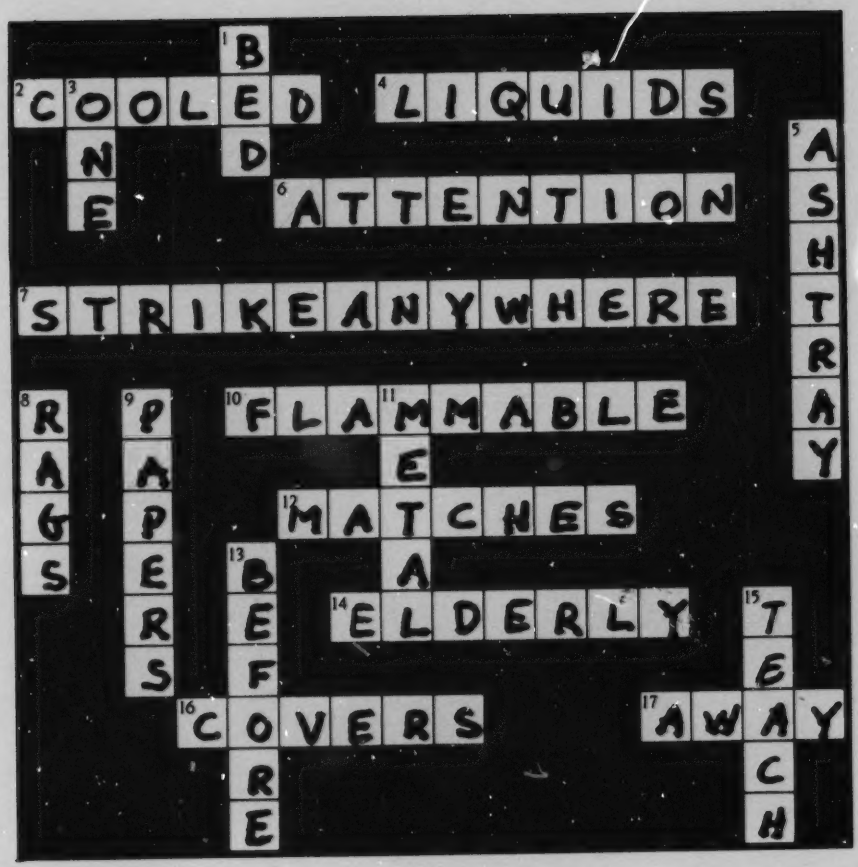
DOWN

1. Play it safe. Don't use matches while you're lying in _____.
3. You should never carry more than _____ matchbook in your pocket at any one time.
5. A wastebasket is no substitute for an _____.
8-9. Do not strike matches near oily _____ and _____.
11. Store matches in a closed _____ container.
13. Close the cover of a matchbook or box _____ you strike a match.
15. Parents should _____ older children how to use matches safely.

WORD CHOICES

ATTENTION	ELDERLY	GLASS
AWAY	FLAMMABLE	CHAIR
ASHTRAY	AFTER	PAPERS
BED	CHILDREN	RAGS
BEFORE	LIQUIDS	STRIKE ANYWHERE
WATER	MATCHES	TEACH
COVERS	METAL	THREE
COOLED	ONE	FABRIC

Answer Key


BED
COOLED
LIQUIDS
ONE
ATTENTION
ASHTRAY
STRIKEANYWHERE
RAGS
PAPERS
FLAMMABLE
MATCHES
BEFORE
ELDERLY
TEACH
COVERS
AWAY

Appendix B

Home Safety Check

Check your house or apartment room by room to see which of these fire hazards you find. Then take action to correct them.

Kitchen

_____ Matches within easy reach of children.

_____ Overloaded outlets or extension cords.

_____ Curtains or towel racks close to the range.

_____ Flammable liquids (cleaning fluids, contact adhesives, etc.) or aerosols stored near the range or other heat source. Remember, even a pilot light can set vapors on fire. Dispose of outdated or empty cans properly.

_____ Attractive or frequently used items stored above the range where someone could get burned reaching for them (especially small children in search of cookies or other goodies).

_____ Worn or frayed appliance or extension cords.

Living Room, Family Room, Den, and Bedrooms

_____ Matches and lighters within reach of young children.

_____ Too-small or too-full ashtrays. Ashtrays should be large, deep, and emptied frequently, but only when all signs of heat and burning are gone.

_____ Unscreened, uncleaned fireplace.

_____ Worn or frayed extension cords or other electrical cords.

_____ Extension cords run under rugs and carpets or looped over nails or other sharp objects that could cause them to fray.

_____ Insufficient air space around TV and stereo that could cause them to overheat and start a fire.

_____ Curtains, furniture, papers near a space heater.

_____ Overloaded outlets or extension cords.

Basement, Garage, Storage Areas

_____ Piles of stored newspapers or other rubbish near furnace, water heater, or other heat source.

_____ Oily, greasy rags. If these must be stored, they should be kept in labeled and sealed non-glass containers, preferably metal.

_____ Flammable liquids (varnish, paint remover, paint thinner, contact adhesives, cleaning fluids) stored near workbench or pilot light and in anything other than labeled, sealed metal containers. Dispose of outdated or empty cans properly.

_____ Gasoline stored in the house or basement. It should be stored away from the house (in an outbuilding) and only in safety cans that have flame arresters and pressure release valves.

_____ Overloaded outlets or extension cords.

_____ Fuses of the wrong size.

Have you seen anyone —

_____ Cooking while wearing clothes with loose, floppy sleeves or full, billowing tops or skirts that may catch fire?

_____ Using gasoline to start a fire in the grill or adding lighter fluid to an already-started fire?

_____ Smoking in bed, in a chair, or on the sofa when tired, drinking, or under medication?

_____ Spraying aerosols while smoking or near a space heater, range, or other ignition source?

_____ Smoking while using a cleaning fluid, a paint thinner, or another flammable liquid?

_____ Using a cigarette lighter after spilling fluid on the hands or clothing?

_____ Reaching over a range or climbing onto a range to get something stored above it?

_____ Leaning against a range for warmth or standing too near a heater or fireplace?

_____ Inviting a small child to blow out a match?

_____ Cooking without long hair tied back?

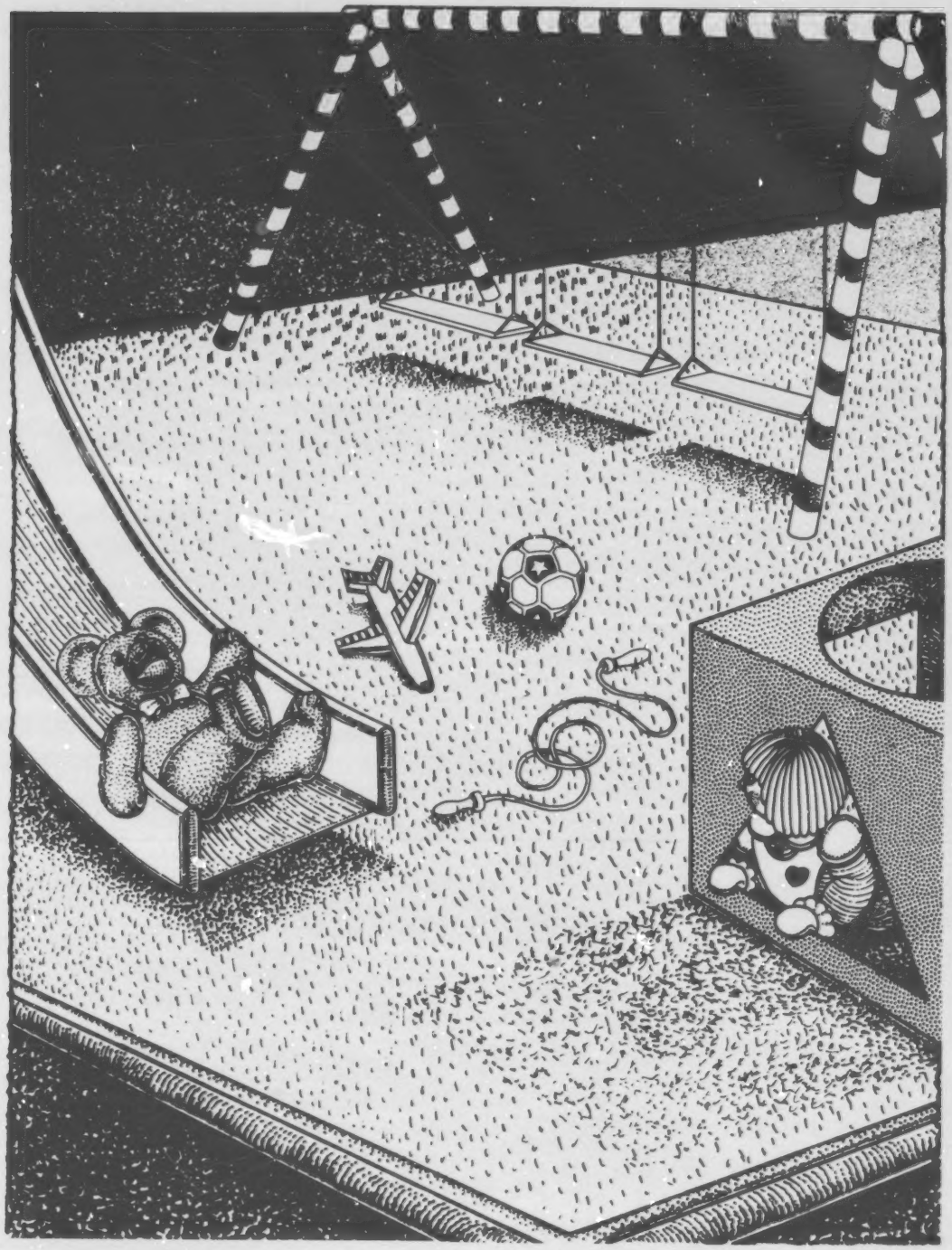
_____ Peering into a closet with a lighted match, lighter, or candle?

_____ Attempting to extinguish a grease fire with anything but baking soda or a lid?

_____ Playing with matches or lighters? Small children do this frequently — and so do some adults.

These actions are dangerous. Ask your family to stop — for their own sake and for yours.

Unit 3 "Play Happy, Play Safe" Playground Safety



A. Introduction

Children use playground equipment in many diverse, yet predictable ways. Playground accidents result from a variety of causes: faulty/poorly designed, installed or maintained equipment; improper use of equipment, e.g., stunts and rough play.

This unit is intended to provide information about hazards associated with the use of playground equipment and suggestions for helping to reduce the frequency and severity of injuries.

B. Principle

Children need to learn the causes of playground accidents and understand how to prevent accidents and injury by the proper use of playground equipment. They should also be taught to recognize common playground hazards caused by faulty installation and/or poor maintenance.

C. Objectives Overview

1. To provide students with information about the causes of playground accidents and injuries.
2. To teach students how to minimize playground accidents or injuries by following basic safety rules.
3. To teach students to recognize common playground equipment hazards.

D. Suggested Discussion Questions

RISK/HAZARD

1. What kind of accidents happen most frequently on the playground?
2. Why is it dangerous to do stunts on playground equipment?
3. How can accidents happen when playground equipment is broken?
4. What can happen if you are playing too close to a moving swing?
5. Why is it dangerous to walk up a slide? To push someone on a slide? To slide down head first?

PREVENTION/CONTROL

1. What can you do to prevent playground accidents?
2. How could soft surfaces on a playground help prevent accidents?
3. What should you do if a piece of playground equipment is broken?

RESPONSIBILITY

1. How can you help younger children learn about playground safety?
2. What can you do to help prevent playground accidents?
3. What can you tell your parents about playground safety?

E. Activity Charts

NOTE: *The approximate grade level for each activity is noted. However, teachers are encouraged to adapt the activities to the learning level/abilities of their students.*

OBJECTIVE #1: RISK/HAZARD

To provide students with information about the causes of playground accidents and injuries.

COMPETENCY	ACTIVITIES	GRADES
a. Define the word "playground."	1. Show pictures of children playing in a variety of different settings. Ask questions designed to help students realize that a playground is defined as any place in which children play.	3, 4
	2. To define the word "playground," have students list those outside places where they play during recess, after school, on weekend, or during summer vacations, e.g., the school playground, a friend's yard, the neighborhood ball field, the woods, a city or county park.	3, 4, 5, 6
b. Identify common causes of playground accidents and cite examples.	1. Ask students to share, if they so choose, personal experiences of the types of accidents they, a relative, or a friend have had while playing at a playground. Discuss the possible causes of the accidents. (NOTE: This should be a voluntary activity. Teachers should be sensitive to the fact that it may be emotionally painful for children to share personal experiences related to accidents.)	3, 4, 5, 6
	2. Ask students to interview the school nurse to determine the frequency, types and causes of accidents that happened in the school playground over the period of a year, and report back to the class.	3, 4, 5, 6
	3. Review the typical causes of playground accidents. (See Teacher Resource Information Section.) Have	3, 4, 5, 6

COMPETENCY	ACTIVITIES	GRADES
	students act out unsafe practices that cause accidents by playing charades.	
	4. Establish a committee of students assigned to interview members of another class to determine personal playground-related accident experiences.	5, 6
	5. Observe another class on the playground during recess. Have students write down things they observe that could cause an accident.	6

OBJECTIVE #2: RESPONSIBILITY

To teach students how to minimize playground accidents and injuries by following basic safety rules.

COMPETENCY	ACTIVITIES	GRADES
a. Describe the importance of following safety rules and practicing safe playground behavior.	1. Review rules for playground safety and the proper use of playground equipment. (See Teacher Resource Section.)	3, 4, 5, 6
	2. Choose a recess or playground time at a nearby kindergarten or day care center, and ask students to write down everything they observe about the children at play. Discuss their observations in terms of safety rules and precautions.	4, 5, 6
b. Demonstrate the proper use of playground equipment.	1. Take students to the playground and have them take turns demonstrating safety practices, e.g., the lock grip, the correct way to get off a see-saw, etc.	3, 4, 5, 6
	2. Have students make signs illustrating basic safety principles. Post these signs in the school playground.	5, 6

COMPETENCY	ACTIVITIES	GRADES
c. List ways to avoid playground accidents.	1. Have students act out, in skit form, or by using a puppet theatre, situations in which they have witnessed unsafe activities that could have resulted in an accident. Discuss how the illustrated behavior often results in accidents. This skit or puppet show can also be put on for parents.	3, 4
	2. For a week, have students observe each other at play and keep a tally of the number of times unsafe practices occurred (names need not be used). Set up a chart in the classroom and strive for fewer numbers each day.	5, 6
	3. Show the class a series of pictures of potentially dangerous playground situations. Discuss what might happen in each situation and how to avoid possible injury, e.g., picture of a child kneeling on a swing; a child sliding head first on a slide.	3, 4, 5, 6
d. Inform others about playground safety measures.	1. Have students compose playground safety slogans and make them into posters to be displayed in the classroom, the cafeteria, the gymnasium, etc.	3, 4, 5, 6
	2. Have students design a coloring book for younger children that illustrates basic playground safety principles.	5, 6
	3. Have students demonstrate proper use of playground equipment to kindergarten students.	6

OBJECTIVE #3: PREVENTION/CONTROL

To teach students to recognize common playground equipment hazards.

COMPETENCY	ACTIVITIES	GRADES
a. Recognize common playground hazards caused by faulty installation and/or poor maintenance of equipment.	1. Using the Safety Checklist (in the Teacher Resource Section), teach students the common playground equipment hazards.	3, 4, 5, 6
	2. Make a model of a playground using cardboard boxes, milk cartons, pipe cleaners and other materials on hand. Allow each child to draw himself/herself somewhere on the playground. Discuss the layout in terms of the basic safety principles.	3, 4, 5, 6
	3. Have children collect pictures of playground equipment from catalogues or magazines and analyze them for safety hazards. They can make a scrapbook or bulletin board with safe equipment on one side contrasted with unsafe equipment on the other. The same thing can be done with snapshots of a child using equipment, or with pictures the children draw of safe and unsafe use of playground equipment.	5, 6
	4. Have students design their "dream playground." Include types of materials used for equipment (e.g., wooden swing sets vs. hard rubber or old tires) and types of surfaces on which equipment is set (e.g., grass or sand vs. concrete). Be sure to give thought to a variety of play activities that could be accommodated and emphasize safety principles.	5, 6
	5. Have students design advertisements to promote their "dream playground." Be sure the advertisements point out the safety features of the equipment.	5, 6
	6. Ask students to prepare a safety check list for parents when buying backyard play equipment. Make a poster and display it during parents' night.	5, 6

COMPETENCY	ACTIVITIES	GRADES
	7. Have students draw a diagram of their favorite playground designating placement of slide, swings, seesaw, and other equipment. Use some of these diagrams as springboards for discussion of playground equipment placement as it relates to safety. Related questions might be the following: Are swings too close to walls or fences? Is there ample space between equipment for movement of children? Are "baby swings" situated so closely to "big" swings that a younger child might be injured?	6
b. Conduct a safety check of their school playground.	1. Have students develop their own safety checklist. (See sample in the Teacher Resource Information Section.) Divide the class into small groups and have them check the equipment on the school playground. Ask them to report their findings to the class.	3, 4, 5, 6
	2. Using the same checklist, have children evaluate the safety of a public playground during a field trip. Have them report their findings to the class by writing news articles on any hazards they identify.	5, 6

F. Teacher Resource Information

The Commission became concerned about the safety of public playground equipment after examining the number and kinds of injuries associated with use of the equipment. A December, 1978 Consumer Product Safety Commission publication, *Hazard Analysis*, for example, estimates that in 1977 about 93,000 people were treated in hospital emergency rooms for injuries associated with public playground equipment. Children 10 years of age or younger suffered 4 out of 5 of the injuries. Some of these injuries were caused when children were struck by moving pieces of equipment such as swings and gliders. Other children were injured when they caught an extremity, such as a finger, at a pivot or pinch point, or ran, or fell against protruding bolts, screws, or other hardware on the equipment. Seven out of every ten injuries, however, were caused by falls — the most common playground accident.

The Playground as the Stage for Play

Play is natural to children. It is not merely an "extra" or inconsequential part of a child's life. It is through play that children learn many lifelong lessons. These lessons include how to interact with others, to take turns, to share, and to cooperate. Playgrounds are one "classroom" for the learning of these lessons.

To a child, a playground is anywhere — at school, down the block, at a friend's house, or in the backyard. Since adults may not always be around to supervise children on the playground, the importance of selecting the right equipment cannot be overemphasized. It must also be installed and maintained correctly and consistently, and children must be taught and reminded how to use playground equipment safely.

Most children, beginning at preschool age, have some basic understanding of the word "safety." Even the youngest child has probably been told not to cross the street without looking, not to play with electric wires; they are told it is not "safe" to do so. It is important to start at the child's current level of conceptualization about safety and help him or her expand and apply this understanding to playground equipment.

It is natural that children will roughhouse on the playground. This type of behavior, however, sometimes leads to accidents. It is necessary, therefore, to change the child's behavior. In trying to motivate children toward playing safely, the positive approach is preferred. Children should not be frightened into changing their behavior on the playground. Rather, safety concepts should be presented positively — e.g., "sit in the swing," instead of "don't stand in the swing."

Children should also be taught that it is important for them to play safely because younger brothers and sisters will imitate them. They should be encouraged to take the responsibility of helping younger children play safely on the playground and on equipment that is appropriate for their age group.

Children should be free to imagine that they are flying on the swings, sliding down a mountain, riding wild animals, balancing like an olympic gymnast, or climbing to the sky. The teacher can guarantee their freedom to imagine, dream, play, learn, and grow by protecting them, teaching them, and supervising them at play.

The Most Frequent Types of Playground Accidents

According to the Commission's *Hazard Analysis*, the most typical and frequent types of playground accidents are:

CLIMBING APPARATUS. Falls accounted for seventy-two percent of the injuries from climbing apparatus such as monkey bars, chinning bars, etc. Victims fell when they slipped, lost their grip, or lost their balance. Falls occurred when children were swinging from rung to rung, performing stunts and jumping on, or from, bars.

SWINGS. Sixty-nine percent of the injuries related to swings occurred when children fell or jumped from the swings. Twenty-six percent of the injuries resulted when the children were struck by a moving swing.

SLIDES. Seventy-eight percent of the injuries on slides were the result of falls over the side, from the platform, and from the ladder. Falls were caused by roughhousing, walking up and down the slide, losing one's grip, slipping, and losing balance. Other victims hit protruding bolts, struck the slide rim and edge, or slipped on the ladder and struck the steps.

MERRY-GO-ROUNDS. Most of the injuries associated with merry-go-rounds resulted from falls when children either lost their grip and were thrown from the merry-go-round, fell down while pushing it, or fell while riding it. In some instances those who were pushing were struck by the device. Those who fell while on the merry-go-round either struck or were struck by other gripping bars, or struck the base itself.

SEESAWS. Although about one out of every six injuries occurred when the victim was hit by a moving seesaw, most injuries resulted from falls. In some cases, the victims were punctured by long splinters from worn, poorly maintained, or damaged wooden seesaws.

OTHER. Other types of equipment involved in injuries were spring action riding equipment, rope or tire swings, etc. Typically, falls contributed to over half of the injuries associated with this equipment.

Preventing Playground Accidents

Children should be encouraged to use playground equipment safely. They can also be taught to look for hazards in playground equipment caused by poor installation and/or lack of maintenance.

Using Equipment Safely

Teachers should encourage students to follow these safety tips:

On Swings . . .

Sit in the center of the swing; never stand or kneel.

Hold on with both hands.

Stop the swing before getting off.

Walk some distance from a moving swing — not too close to the front or the back.

Have only one person in one swing at a time.

Never swing empty swings or twist swing chains.

Avoid putting head and feet through exercise rings on the swing sets.

On Slides . . .

Hold on with both hands while going up the steps of the slide, taking one step at a time; never go up the sliding surface or the frame. Keep at least one arm's length between children.

Slide down feet first, always sitting up, one at a time.

Be sure that no one is in front of the slide before sliding down.

Be patient; don't push or shove, but wait your turn.

Leave the front of the slide after you have taken your turn.

Don't use a metal slide that has been sitting out in the sun.

On Climbing Apparatus . . .

Use the correct grip; use fingers and thumbs ("lock grip") for climbing and holding; use both hands.

Watch carefully when climbing down and avoid those climbing up.

Avoid having too many people using the equipment at once.

All start at the same end of the equipment and, using the "lock grip," move in the same direction.

Stay well behind the person in front and avoid swinging feet.

Never use equipment when it is wet.

Avoid speed contests or trying to cover too large a distance in one move.

Drop from the bars with knees slightly bent and land on both feet.

On Seesaws . . .

Sit facing each other, not leaning back.

Keep a firm hold with both hands.

Never stand or run on the board.

Keep your feet from underneath the board as it goes down.

Tell your partner before getting off; hold the board tightly and let it rise gradually so that the child at the other end can get off safely.

Never "bump" the other person by hitting the ground hard with either end of the board.

If children learn to follow these safety procedures, playground accidents and injuries can be greatly reduced. Whenever possible, sharing this information with parents can also reduce playyard injuries at home.

Identifying Hazardous Conditions

Students can also be taught to check out the playground equipment they use and identify existing or potentially hazardous conditions. Specifically, children should become aware of the hazards in the safety check list below. (This checklist can be used in the activities for this unit.)

Playground Safety Checklist

Are the playground surfaces hard or soft? (TEACHER'S NOTE: concrete, brick and blacktop should be avoided; grass, woodchips, sand or other cushioning surfaces are better. These should be under slides/swings and all climbing apparatus.) PROVIDING A SAFER PLACE TO FALL WILL REDUCE THE SEVERITY OF INJURIES.

Is the equipment the right height and size for the children who will use it?

Are there any moving parts (especially on gliders and seesaws) that can pinch or crush fingers?

Are there any screws or bolts sticking out that could be dangerous?

Are any of the screws or bolts loose?

Are the legs of swings or slides wobbly? Are they set firmly in the ground? (TEACHERS NOTE: Legs of equipment should be set in concrete for stability. All types of anchoring devices should be placed below ground level to avoid a tripping hazard.)

If cement was used to set the legs firmly in the ground, is it smooth or can someone trip over the bumps?

Are there any exposed or sharp edges on the equipment where parts fit together?

If there are rings on the equipment, are they large enough so that a child's head won't be entrapped? (TEACHER'S NOTE: They should have a diameter of more than ten inches or less than 5 inches.)

Are the swings made of hard material that could seriously hurt a child who bumped into a moving swing? Are there "S" hooks on the equipment, especially on swings, that can catch a child's clothing?

Is there a soft surface at the foot of the slide? (TEACHER'S NOTE: There should be a landing pit with sand, tanbark, or a comparable substance to cushion falls. The pit should be kept free of debris and kept resilient, level and loose.)

Are metal slides in shady areas or facing north, away from the sun?

Are the monkey bars shaky? (TEACHERS NOTE: They should not turn and nets should be in good repair.)

Are all climbing structures dry? (TEACHER'S NOTE: They should be dry before children use them.)

Is there separate playground equipment for young children (so they don't have to pass through an area where an older age group is playing to get to their equipment)?

Children should be encouraged to use this checklist and report their findings to teachers and parents.

A Note To Teachers

There are additional hazards that may be too technical for 3rd – 6th graders to identify. However, it is helpful for teachers to recognize the following installation/maintenance guidelines for playground equipment so that students can be alerted to potential hazards:

1. Swings sets should be installed a minimum of six feet away from fences, building walls, walkways, and other play areas such as sandboxes.
2. Control of traffic and accessibility should be considered when placing playground equipment, since many accidents are the result of collisions. Definite areas or "danger zones" should be clearly marked around various apparatus.

   ("Danger zones" are those areas around the different pieces of equipment in which children walking or playing nearby could be hurt, e.g., a child playing too closely to a swing set could be hit with a moving swing, or a child walking too near the front of a sliding board can be hit by a child sliding down the board.)
3. Maintenance checks of playground equipment should be made at the beginning of the play season and every two weeks during the season. Checks should include the following:

   Tightening any loose nuts, bolts, and clamps; applying new tape over protruding screws or bolts if necessary.

   Replacement of rusted parts, including swing chains.

   Oiling metal parts regularly; sanding and repainting any rusted metal tubing with unleaded paint. All wooden equipment should be checked and

sanded where splinters are found.

Refilling landing pits.

Checking wear around foundations to assure that they are covered by several inches of soil.

Inspecting the frames, hooks, hangers, connections, and suspensions of swings bi-weekly is recommended.

Inspecting rope swings for wear and stress. Nylon and synthetic ropes are generally more durable than natural fiber rope.

Checking the beds and sides of the slide for screws, nails, and rough spots. A wood slide must be waxed frequently. It should not be washed. Metal slide beds must be cleared of rust.

Checking the fulcrum (the point of the seesaw that is attached to the bar) to be sure it is enclosed to protect against finger and hand injuries. Frequent checks should be made to be sure that attachments at the fulcrum are secure.

Checking seesaws for protruding nails or screws and for splintering or splitting of the board.

Placing a block under each end of the seesaw board so that children will not catch their feet if the board descends too rapidly.

Looking for broken or missing nails, steps, rings or seats, worn bearings, swing hangers and chains.

G. Unit Glossary

NOTE: These are not meant to be technical definitions. They are defined in terms that 3rd – 6th grade students can understand.

Climbing Apparatus – Any piece of playground equipment intended to be climbed on, e.g., monkey bars, parallel bars.

Exposed Edges – A part or piece of playground equipment that is sticking out and could hurt someone or catch someone's clothing.

Maintenance – A way of keeping equipment in good working order and repairing broken parts.

Playground Equipment – Slide, seesaw, swings, monkey bars etc.

Playground – A place, often part of a school yard, for outdoor games and recreation.

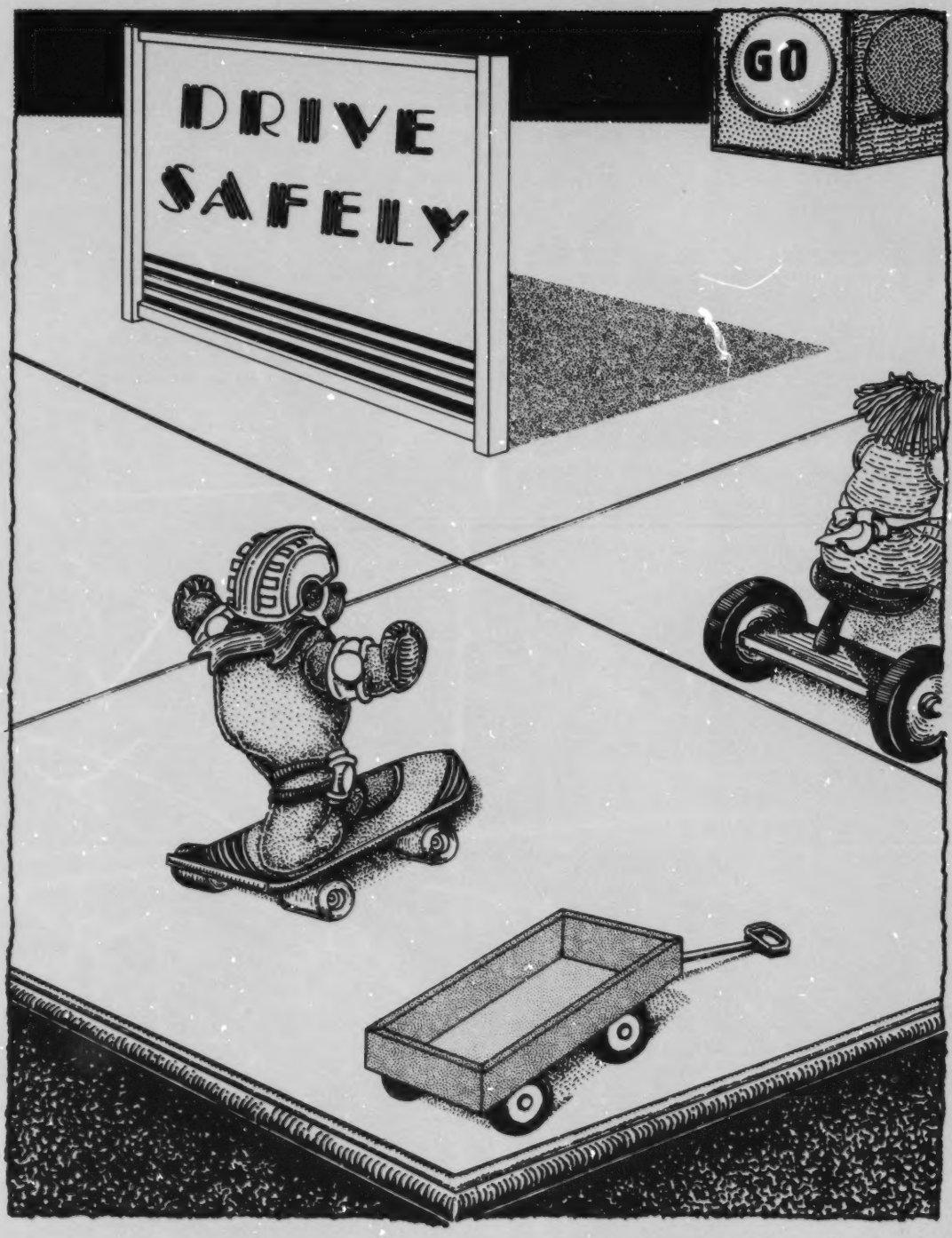
Playground Surface – The material that covers the playground, for example, dirt, concrete, grass, wood chips. Soft surfaces are best because they can cushion a fall.

"S" Hooks – S-shaped hooks on swings that could be very hazardous. They can catch someone's clothing, fingers, etc. "S" hooks should be squeezed closed.

Stunt – A trick or daring feat on a piece of playground equipment.

Unit 4

"Wheel a While" Bicycle, Skateboard and Roller Skate Safety



A. Introduction

We are indeed a mobile society and children are no exception. They use a wide variety of recreational equipment and vehicles, including bicycles, skateboards, and roller skates. While bike riding and skating can be fun, they can also be dangerous.

The purpose of this unit is to alert students to the risks and hazards associated with bicycles, skateboards and roller skates, and to encourage safety habits that will reduce and prevent accidents and injury.

Bicycles, skateboards and roller skates were selected because they are widely used by children nationwide and because of the high rate of injury associated with their use. However, many of the safety principles presented in the unit are applicable to other recreational activities such as sledding and swimming.

Bicycles, skateboards and roller skates are often popular holiday gifts. Consequently this unit may be presented in conjunction with Unit 7, Holiday Safety.

B. Principle

While using bicycles, skateboards, and roller skates is fun, students must learn the causes of accidents associated with their use. Students can reduce accidents and injury by learning how to safely select, use, maintain, and store bicycles, skateboards and roller skates.

C. Objectives Overview

1. Increase students' awareness of the risks and hazards involved in the use of bicycles, skateboards, and roller skates, and help children understand their responsibilities regarding the safe use of these products.
2. Provide students with information on proper selection, use, maintenance and storage of bicycles, skateboards and roller skates.
3. Provide an opportunity for students to improve bicycle safety in the community.

D. Suggested Discussion Questions

RISK

1. How can riding a bicycle be dangerous? A skateboard? Roller skates?
2. What is the risk in the following situations:

   riding your bike at night;

   riding out of the driveway without looking;

   carrying passengers on your bike;

   walking up stairs wearing roller skates;

   skateboarding without a helmet.

HAZARD

1. Why would it be dangerous to do the following:

   perform stunts on a skateboard;

   disobey traffic laws when riding a bicycle;

   roller skating on a bumpy sidewalk.

PREVENTION AND CONTROL

1. Why is it important to learn traffic safety laws?
2. Where are the safest places to ride a bicycle? A skateboard? Roller skates?
3. What causes bicycle accidents? Skateboard accidents? Roller skating accidents?
4. Who is hurt most in these accidents?
5. Where can you go in the community to have a broken bicycle repaired? A broken skateboard? Broken roller skates?
6. Why is it important to keep your bicycle in good condition? Your roller skates? Your skateboard?

RESPONSIBILITY

1. What can you do to help younger children ride bicycles safely? Roller skates? Ride skateboards?
2. If you are riding your bike at night, what can you do to be sure cars see you?
3. Where should you keep your bicycle when you aren't riding it? Your roller skates? Your skateboard? Why can it be dangerous to leave these lying around when they aren't being used?

E. Activity Charts

NOTE: *The approximate level for each activity is noted. However, teachers are encouraged to adapt the activities to the learning level/abilities of their students.*

OBJECTIVE #1: RISK/HAZARD AND RESPONSIBILITY

Increase students' awareness of the risks and hazards involved in the use of bicycles, skateboards, and roller skates, and help children understand their responsibilities regarding the safe use of these products.

COMPETENCY	ACTIVITIES	GRADES
a. Identify risks and hazards associated with bicycles, skateboards and roller skates.	1. Review definitions of the words "risk" and "hazard." Give the children a list of risks and hazards associated with bicycle, skateboard and roller skates. Have the children write a three line stanza or a short story of an incident involving one or more of these risks and hazards.	3, 4, 5, 6
	2. Ask students to develop a questionnaire regarding the number and frequency of bicycle accidents; the type of accidents; the injuries	6

COMPETENCY	ACTIVITIES	GRADES
	resulting from accidents; the number of children owning bicycles in the community; the number of years that children have been riding; the number of children who are accident-free. Have children use the questionnaire to interview another class. Children can compile the results of the survey and distribute them to the school.	
b. List tips for safer bicycle, skateboard or roller skate use and demonstrate safety practices.	1. Show a picture of a bicycle, skateboard, or roller skates, label important parts and include a brief description (example: lights — be sure they work properly.) Suggested parts: lights (front and back), saddle, fenders, spokes, brakes (coaster and hand brakes), chain, pedals, wheels, tires, handlebars and grips, reflectors, wheels.	3, 4
	2. Develop an action rhyme about the safe use of bicycles, roller skates, and skateboards. Using the rhyme, play "Simon Says," or similar action games.	3, 4
	3. Ask students to draw pictures illustrating their role in encouraging bicycle, skateboard, and roller skate safety.	3, 4
	4. Meet the press: Prepare a panel discussion on safety and persons responsible for safety to present to children in lower grades. Give the audience an opportunity to ask the "panel" questions.	5, 6
	5. Give students the quiz in Appendix A as a summary activity and discuss the correct answers.	3, 4, 5, 6
	6. Present tips for safe bicycle, roller skates, and skateboard use. (See Teacher Resource Information Section.) On the playground, have stu-	3, 4, 5, 6

COMPETENCY	ACTIVITIES	GRADES
	dents practice and demonstrate safety tips using equipment brought from home.	
	7. Design posters that illustrate a list of tips for the safe use of bicycles, skateboards or roller skates. Display posters school-wide.	3, 4, 5, 6
c. Describe available safety equipment and explain their purpose.	1. Discuss the importance of safety equipment when riding bikes, roller skating, and riding skateboards. Have students keep a log for one week of times they see people wearing safety equipment (for any recreational activity). Compare lists in class and prepare a bulletin board display.	3, 4, 5, 6
	2. Develop a "Do's and Don'ts" Booklet for bicycle riding, roller skating, and skateboarding to be distributed to other classes.	6

OBJECTIVE #2: PREVENTION/CONTROL

Provide students with information on proper selection, use, maintenance, and storage of bicycles, skateboards and roller skates.

COMPETENCY	ACTIVITIES	GRADES
a. Discuss important factors to look for in the selection of a bicycle, skateboard, or roller skates.	1. Review factors to consider when selecting bicycles, skateboards, and roller skates. (See Teacher Resource Information Section.) Have students create posters and slogans to illustrate these safety principles.	3, 4, 5, 6
	2. Develop a pantomime that illustrates: a. A consumer carefully selecting a bicycle, skateboard, and pair of roller skates. Be sure to emphasize the importance of proper fit. b. A consumer purchasing a bicycle, skateboard or pair of roller skates	3, 4, 5, 6

COMPETENCY	ACTIVITIES	GRADES
	in a hurry without regard to proper selection. Perform the pantomime at a parents' night or for the rest of the school.	
b. Conduct a safety check for the maintenance of a bicycle, skateboard, or roller skates.	1. Invite a local bicycle, skateboard or roller skate mechanic to conduct a safety workshop on how to inspect bicycles, roller skates and skateboards for safety and keep them in safe working order. Ask children to volunteer to bring in their bicycle, skateboard, or roller skates that may be in need of maintenance or repair. The mechanic will point out the need and may provide tips for keeping the product in good repair.	3, 4, 5, 6
	2. Arrange a field trip to a bicycle repair shop. At the shop, have the children find a bike that fits — the right size is crucial. The children can interview the sales person for additional suggestions.	5, 6
	3. Ask students to critically examine the bicycles, skateboards, or roller skates of three children in the neighborhood. In completing the examination, they should focus on the following: What is the current condition of the equipment? Is the equipment in need of repair? If so, what repairs need to be done? Where and how is the equipment stored? Who uses the equipment? Is the equipment shared by older and younger children?	6
c. Describe how bicycles, roller skates, and skateboards should be safely stored.	1. Discuss the importance of proper storage of bicycles, roller skates, and skateboards. Ask students where they keep these things at home. Talk about	3, 4, 5, 6

COMPETENCY	ACTIVITIES	GRADES
	the danger, to the equipment and to younger children, of leaving equipment lying around.	
	2. Have students write a play about a bicycle, roller skate, or skateboard that's left out in the rain. Write the play from the equipment's point of view.	5, 6
	3. Write an article for the school newsletter on "safety tips for the selection, use, and maintenance of bicycles, skateboards, and roller skates."	5, 6

OBJECTIVE #3: RESPONSIBILITY

Provide an opportunity for students to improve bicycle safety in the community.

COMPETENCY	ACTIVITIES	GRADES
Students will be able to set up a "wheel a while" safety fair that includes the following: an exhibit of posters and materials on safety associated with bicycles, skateboards, and roller skates; and establish contact with various groups and clubs associated with bicycling, skateboarding, and roller skating.	Set up a "wheel a while" safety fair for students in grades 1 through 6. The fair can be held on the school playground. Publicity should be provided beforehand to ensure a good turnout and enlist the support of retailers and/or repair shops, the recreation department, police, PTA and the local safety council. Do the initial planning and approach these groups with a written plan. *Suggested Events* 1. Maintenance check on all bicycles, skateboards and roller skates, with some minor repairs done on the spot. Retail store and repair shop personnel should plan and run this event with your assistance. 2. Riding event. This can go on all day long. Keep careful records of each	NOTE: All activities are for grades 3, 4, 5, 6. However, planning the activities may be more appropriate for 5th and 6th graders.

event. The purpose of these events is to test the skills that are important for safe riding:

a. *Slow riding* — Demonstrates control. Bicyclists ride in lanes two feet wide from a designated starting line to a finish line, e.g., 100 yards away. The winner is the cyclist who can pedal slowest without stopping, putting a foot on the ground or going outside the lines.

b. *Obstacle courses* — Set up several obstacle courses of varying difficulty including obstacles to go around; long, narrow lanes to test control; and figure "8" shaped-sections. Develop a scoring system for each course. Score for accuracy and control.

c. *Rules of the road* — Ask the police and local safety council to work with you to set up and run a riding event that tests knowledge of rules of the road. The course for this riding event might include stop and yield signs, stop light, right and left turn with appropriate hand signals and recognition of common highway signs.

3. Poster Contest — In the pre-publicity to the community, ask students to make posters on bicycle safety. Have a display and judging of the posters on the fair day.

4. Additional ideas:

a. Set up an exhibit of posters and other material on bike, skateboard, and roller skate safety. Retailers who are working with you may want to display equipment and accessories here, also. Materials to

COMPETENCY	ACTIVITIES	GRADES
	display and pass out may be available from clubs and organizations such as: Bicycle Forum P.O. Box 8311 Missoula, Montana 59807 (406) 728-4497 OR Bicycle Federation 1101 15th Street, NW Suite 309 Washington, D.C. 20005 (202) 659-5540 You may also want to display student-produced material. b. Develop a press release announcing the fair and describing its purpose and events. Send it to all local newspapers, television, and radio stations. Follow-up with phone calls. c. If there are bicycle, skateboard, or roller skate clubs in your area, invite them to participate. Perhaps they can put on a demonstration or run a workshop. Some of the topics they might cover are planned or existing bike paths in your community, safety tips from experienced riders, tips on developing riding skills, activities for cyclists in the area (bike hikes, bike camping, etc.). d. Take pictures and keep notes on the day of the fair. If you wish to repeat the project, these notes will help next year's organizer.	

F. Teacher Resource Information

Overview of Bicycle Safety

The U.S. Consumer Product Safety Commission estimates that in 1981 over 549,000 people suffered bicycle injuries that were serious enough to receive treatment in hospital emergency rooms. Over 70% of these injuries involved children under 15.

However, some important things are happening to help reduce the number and severity of these tragedies. Concerned private organizations and schools are teaching safe bicycle use. Bicycle paths are being developed, and special lanes are being designed for the use of bicyclists on heavily travelled streets and roads. The U.S. Consumer Product Safety Commission (CPSC) set standards in 1976 that govern the safety performance of bicycles introduced into interstate commerce.

Students, as consumers, can protect themselves by helping their parents select a safer bicycle, by maintaining bicycles on a regular basis, by knowing the rules of the road, and by being constantly aware of basic traffic safety.

Major Causes of Bicycle Injuries

1. COLLISION* — with a car or another bicycle. Collisions typically occur in the following situations:

   Driveway Rideout — When a youngster rides out of the driveway and gets hit by a car, that's a "rideout" accident. This type accounts for about eight percent of all car/bike collisions and it gets kids early: the median age is less than ten.

   Running a Stop Sign — About ten percent of the car/bike crashes happen when the bicyclist runs a stop sign. It happens to fairly young kids, the median age is about eleven. Oddly enough, most of the riders who get hit riding through stop signs know that they are supposed to stop. They just don't see why ... or they get distracted. The thing to impress upon your students is that, while he or she may not get hit every time, running stop signs will eventually result in an accident.

   Turning Without Warning — Another major accident type involves bicyclists who make unexpected left turns. They neither scan behind for traffic nor do they signal. This accident type accounts for about 10% of all car/bike collisions and the median age is about twelve years. The key factor here is neglecting to scan the rear. If the cyclists had looked, they would have seen the cars coming up from behind.

   Night-time Riding — Certain types of accidents happen most often after dark. For example, most crashes in which a car coming up from the rear hits a bike while overtaking happen at night. These 'overtaking' accidents can be very serious. About 25% of all fatal car/bike collisions are of this type. Most, however, involve older cyclists; the median age is about twenty years.

   Following the Leader — Many car/bike collisions take place when children are following each other. The first one may run a stop sign and get through. The second one may get hit. Several different accident types involve this "group think" behavior and it is hard to counter.

2. LOSS OF CONTROL — Some ways in which this occurs include faulty brakes; riding too large a bike; riding double (for example, on banana seats, rear fenders, handlebars or the horizontal top tube on a man's bike); stunting; and striking a rut, bump or obstacle.

3. ENTANGLEMENT — Entanglement of a person's feet, hands, or clothing in the bicycle.

4. MECHANICAL AND STRUCTURAL PROBLEMS — These include brake failure; wobbling or disengagement of the wheel or steering mechanism; difficulty in shifting gears; chain slippage; pedals falling off; and frame breakage.

5. FOOT SLIPPAGE FROM PEDAL.

Preventing Bicycle-Related Injuries

Most importantly, children need to know and obey traffic laws when they ride. In addition, they can be taught how to safely select, maintain, and store their bicycles.

Tips For Safer Bicycle Use

Teachers should encourage students to learn the following:

1. KNOW AND OBEY TRAFFIC LAWS AND SIGNALS. Most laws and regulations that govern auto traffic also apply to bicyclists. Bike riders should show the same courtesy they hope drivers will show them.

   Always yield the right of way to cars and pedestrians. Be alert for anyone stepping out from between parked cars. Use a bell or horn to give warning, but be ready to yield, if required.

   Always stop at stop signs.

   Know and use hand signals.

   Never make a left turn without looking behind you to check for cars.

*Data are from the NHTSA funded study of car-bicycle collisions.

Walk your bike when crossing busy streets.

Look carefully in all directions when riding out of driveways.

2. **DON'T RIDE A BIKE IF IT IS NOT IN GOOD WORKING CONDITION.**
3. **RIDE NEAR THE CURB IN THE SAME DIRECTION AS TRAFFIC. ALWAYS RIDE SINGLE FILE.**
4. **DON'T COMPETE WITH HIGH SPEED OR HEAVY TRAFFIC. THIS IS DANGEROUS.** Look for safer, less travelled routes.
5. **AVOID STUNTING OR CLOWNING ON BICYCLES. THIS CAN RESULT IN SERIOUS INJURY.** Bikes provide fun, but safety must be taken seriously.
6. **AVOID PLAYING "FOLLOW THE LEADER" ON YOUR BIKE.**
7. **NEVER CARRY A PASSENGER.**
8. **USE A BASKET OR CARRIER FOR PACKAGES.**
9. **BE ALERT TO SURFACE CONDITIONS AND TO WHAT'S HAPPENING ALL AROUND YOU.** Sewer grates, potholes, rocks, and other surface conditions can easily throw the most skillful riders. Ride slowly enough to avoid unexpected obstacles, such as car doors suddenly opening, cars backing out of driveways or parking lots, or younger children unexpectedly running in front of the bicycle.
10. **AVOID RIDING IN WET WEATHER; THIS IS HAZARDOUS.** Visibility is a problem for cars and bicycles. Wet tires tend to skid, and wet handbrakes may not be effective. Going through deep puddles at high speed can cause loss of control. Avoid wet conditions if at all possible.
11. **BE CAUTIOUS WHEN RIDING AT NIGHT; THIS POSES ADDITIONAL RISKS.** If it is necessary to ride at dusk or in darkness, have lights and reflectors in good working order. Wear white or light-colored clothing and ride at a slower pace. Sewing reflectorized tape on clothing, or strapping front-back flashlights on legs and arms also improve visibility.
12. **AVOID SKIDS.** Slow down on rough or slippery roads and when riding downhill. Watch out for loose sand or gravel.
13. **CONSIDER A HELMET.** Helmets can save lives. About 75% of all bicyclists who die each year die from head injuries. Many more are permanently damaged as a result of hitting their heads. (The cost of a bike helmet for a child ($25-$35) is small when compared with the medical bills and possible grief from a head injury. Hard-shell helmets are recommended. There are several available in children's sizes.)

IN ALL TRAFFIC SITUATIONS, REMEMBER, CAUTION IS THE BYWORD. RIDE DEFENSIVELY. LOOK AND LISTEN FOR APPROACHING TRAFFIC SOUNDS FROM ALL DIRECTIONS.

Selecting a Bicycle

The Consumer Product Safety Commission has set standards for bicycles; new bicycles being sold must meet these safety requirements. When selecting a new bicycle, students should be sure that the bike can be adjusted to fit. Improper fit can contribute to loss of control. The rider should be able to straddle the bicycle with both feet flat on the ground, and with no less than 1 inch clearance between the frame's top tube (on a boy's bike) and the driver's crotch. The rule to follow is to BUY A BICYCLE THAT FITS TODAY, not one to "grow into" later. Students should be encouraged to share this important fact with their parents.

In some cases, students will purchase, borrow or use bicycles manufactured before CPSC standards. In addition, bicycles that have been poorly maintained may become hazardous. Therefore, students should be taught to recognize these hazards:

1. Sharp edges.
2. A bent or partially broken frame.
3. Protrusions above the top tube, or between the seat and handlebars.
4. Faulty brakes.
5. A non-derailleur bike without a chain guard.
6. A bike without reflectors or lights.
7. Tires with thin tread or cracked surfaces or sidewalls.

Maintaining A Bicycle

Maintenance is crucial to bicycle safety. Proper maintenance can help prevent injuries. While much of the maintenance of a bicycle should be left to those with the right tools and know-how, students should still be encouraged to routinely check their bicycles for potential hazards and alert their parents whenever repairs are needed. It is recommended that bicycles have a tune-up and safety check at least once a year.

Checking A Bicycle

Bicycles should be checked regularly. If repairs are needed, they should be made before the bike is used again. Students should:

Tighten and/or adjust loose parts.

Replace all missing, damaged, or worn parts such as chain guards, chain links, spokes, screws and bolts, handlebar grips, seats, brake pads and cables on hand brakes.

Keep all moving parts well lubricated.

Wipe a bike off immediately when it gets wet or if any part gets covered with dirt or sand. If the frame or a weld is cracked, the bike should not be used.

Storing A Bicycle

Keeping bicycles stored indoors can prevent rusting and help keep all parts in good working order. Even a light dew can cause rust and damage the bike's components. Children should be encouraged to properly store their bikes, especially when it rains or snows.

Overview of Roller Skating Safety

Many children and young teens learn new skills on roller skates, but hard falls often accompany this learning experience.

The U.S. Consumer Product Safety Commission estimates that approximately 189,000 persons required hospital emergency room treatment in 1981 for injuries suffered while roller skating.

Major Causes of Roller Skating Accidents

1. POOR OR UNEVEN SURFACES. Environmental hazards such as cracked or uneven cement sidewalks or streets, rocks, tree branches, or other debris can cause tripping or skidding.
2. STRUCTURAL PROBLEMS IN THE SKATES. For example, an axle can loosen and a wheel can fall off.
3. OTHER CAUSES CAN INCLUDE THE "HUMAN FACTOR":
   (a) skating too close to the skaters in front;
   (b) inexperience with the skates or with "trick" skating;
   (c) horseplay and pushing;
   (d) lack of attention;
   (e) misuse, such as going up and down steps with skates on.
4. ROLLER SKATING IN TRAFFIC.

Preventing Roller Skating Injuries

Children need to know how to safely select, use, maintain, and store their roller skates.

Selecting Roller Skates

Buy or rent skates that fit well. Choose shoe skates that fit your present foot size, not a pair you can grow into. Avoid hand-me-downs that don't fit.

Check for sharp edges and points that can cut in case of a fall.

Using Roller Skates

LEARN TO PERFORM BASIC SKATING MANEUVERS WELL before attempting more complicated or "trick" moves.

CHECK THE SKATING SURFACE CAREFULLY BEFORE AND WHILE SKATING. Avoid uneven or broken cement, and branches or rocks in the skating path.

DON'T ROLLER SKATE IN STREETS, except when they are closed to traffic to allow skating.

DON'T "HITCH A RIDE" WHILE ROLLER SKATING.

WEAR SAFETY EQUIPMENT, such as protective knee and elbow pads, when roller skating. These may help prevent more serious injuries. Other equipment can include wrist braces, helmets, and mouthguards, which may prevent knocked-out or broken teeth.

LEARN HOW TO FALL in case of an accident. Try to roll onto fleshy parts of the body, such as the buttocks, upper legs, and shoulders, rather than land on more fragile areas. Although it may be difficult, try to relax, rather than going stiff.

Maintaining Roller Skates

Keep equipment in good repair. Don't skate on wheels that need repair.

Keep parts tightened. Replace broken straps on "strap-on" roller skates immediately.

Keep skates dry and clean, and lubricate them when needed.

Storing Roller Skates

Keep skates in a dry place away from moisture that can cause rust.

Overview of Skateboard Safety

Skateboarding can be a lot of fun. It can be exciting, whether zipping around a bowl in a skateboard park or cruising around the neighborhood. But skateboarding can also be dangerous. It can be even more dangerous if safety habits are not practiced. Students should learn to properly select, use, maintain and store their skateboards to reduce injuires.

Selecting a Skateboard

Skateboards come in many sizes, shapes, colors and styles. Some skaters buy them ready-made, while others buy the parts and assemble their own. There are so

many kinds of skateboards that selecting one can require as much skill as riding.

There's no rule about what is best. No particular type of board is "safer" than another. The choice should be based on the kind of service a board can give. The following tips will be helpful to students in selecting a skateboard:

Gather as much information about skateboards as possible before making a choice. Visit several sporting goods or department stores where skateboards are sold and examine different boards. Read any information printed on the bottom of the board. Go to a library and read magazines or books on skateboarding.

Skateboards may be flexible or rigid, depending on the material used to make them. Flexible boards may allow more "give" to weight shifts than the stiffer ones, but they may also sag or lose shape depending on the materials used to make them and the amount of use they get.

If a board rubs the wheels during a ride, it can cause a fall. Some boards have "wells" above the wheels to keep the wheels from rubbing on the board, particularly during turns or shifts in weight.

The wheels on a skateboard also vary. Harder wheels allow faster speeds, but give rougher rides. Softer wheels give better traction, which helps keep the wheels from slipping on the riding surface.

Sealed bearings will keep out dirt better than bearings that are only shielded. Dirty bearings can cause wheels to "drag" or hang up, and that can increase the likelihood of a fall.

Look for a sturdy board with a slip resistant or rough top that helps keep the rider's feet from sliding.

A board may maintain its sturdiness longer if the trucking mechanism is attached by thru-bolts instead of wood screws and if all four wheels are attached to the axles with lock nuts.

Some boards are sold with printed instructions on use and maintenance. Always keep this information in a handy place for future reference.

Using a Skateboard

The following tips will be useful to students in using a skateboard:

USE PROTECTIVE EQUIPMENT. Closed-toe, non-slippery shoes, helmets, gloves, and specially designed padding may not fully protect skateboarders from fractures, but can reduce the number and severity of injuries.

CHECK THE RIDING SURFACE for holes, bumps, rocks, and other debris before getting on a skateboard.

AVOID RIDING IN THE STREET.

DON'T TAKE CHANCES. Complicated tricks require careful practice and a specially designed area.

NEVER HITCH A RIDE FROM A CAR OR BICYCLE.

ONE PERSON at a time should ride skateboards.

LEARN HOW TO FALL IN CASE OF AN ACCIDENT. This may help reduce the chances of being seriously injured.

A rider who crouches when losing his or her balance will not have so far to fall.

In a fall, the idea is to land on the fleshy parts of the body. Rather than absorbing the force with your arms, try to roll onto the softer parts of the body, like the thighs or shoulders.

Even though it may be difficult during a fall, try to relax rather than stiffen the body.

Maintaining A Skateboard

As with bicycles and all recreational equipment, proper maintenance can reduce the risk of injury. Check a skateboard every time before using it. When checking a board, look for:

Loose, broken, cracked, nicked or bent parts (pay close attention to all the parts of the trucking mechanism and the condition of the wheels);

Wheels that make gritty or squeaky noises;

Wobbly wheels that need tightening;

Screws that stick out too far;

Splinters;

Sharp or rough edges -- particularly if the board is metal;

A slippery top surface or loose gripper strips, and

Bent axles that need to be replaced.

Read the instructions on the use and care of the board, especially when taking your board apart to clean or repair it. If the board needs major repairs, consider taking it to a repair shop. Some bicycle or lawn mower repair shops, sporting goods stores, and skateboard parks may provide skateboard repair service.

The number of times a board needs repair will vary depending on the amount or type of skating and the type of surface on which it is ridden. The more often and harder the board is used, the more often it may require repairs.

Storing a Skateboard

Keep a skateboard in a dry place away from moisture that can cause rusting or, if

Appendix A

the board is wooden, warping.

G. Unit Glossary

NOTE: These are not meant to be technical definitions. They are defined in terms that 3rd through 6th grade students can understand.

Collision – A bicycle hitting a car, pedestrian or another bicycle.

Frame – The body of a bicycle.

Hand Signals – A way for bicyclists to show they are turning, stopping, etc.

Pedestrian – A person who is walking.

Protective Equipment – An item worn by a bicyclist, skater or skateboard rider to protect parts of the body in case of a fall, e.g., helmets, skin pads, knee pads.

Safety Helmet – A specially designed and sturdy hat worn by bicyclists, skaters or skateboard riders to help prevent head injuries in case of a fall.

Traffic Laws – Rules that bicyclists must follow when riding on sidewalks and streets.

Uneven Surface – A danger to bike riders, roller skaters, or skateboard riders, e.g., cracked sidewalks, a pothole, or bumpy road.

The following statements are either all true or all false; except for one statement which is a trap. Can you tell whether the statements are true or false, and can you spot the trap?

1. When you ride your bike on the sidewalk, pedestrians should stay out of your way.
2. A really good bike rider does not always need to pay attention to traffic signs and signals.
3. It is okay for a skillful biker to carry a passenger on the crossbar of a boy's bike.
4. Bikers do not have to use hand signals.
5. It is the responsibility of the driver of a motor vehicle to look out for the safety of bike riders.
6. The safest rule for biking is to ride on the sidewalk as much as possible.

(Reference – *Safety: A First Book*, By Polly Bollian and Shirley Hinds p.12)

(Answer: All statements are false. The 5th one is the trap because it is both false and true. The bicyclist too, shares half of the responsibility.)

Unit 5 **"Yecchh!"**
Poison Prevention

A. Introduction

Some poisonous substances are well known products, such as weed killer, bug killers, lye, acids, solvents, and some drugs. For some of these, an amount as little as a swallow can cause problems and may be fatal.

There are other potential poisons — furniture polish, liniments, lighter fluids, household cleaners, and paint thinners, along with aspirin and aspirin substitutes. They are all dangerous when they are not used as intended or directed.

The purpose of this unit is to develop an awareness in children of the various kinds of accidents and injuries that can occur because of improper identification, use, storage, and disposal of poisonous substances. In addition, the unit is designed to help children learn emergency procedures for accidental poisonings.

B. Principle

Children are often the victims of accidental poisonings in the home. Students must learn to identify, use, store, care for, and dispose of poisonous substances safely.

C. Objectives Overview

1. To define "poisonous substances" and identify different kinds of poisonous substances found in and around the home.
2. To provide students with basic information on the causes of poisoning, and the proper use, storage, and disposal of potentially poisonous products.
3. To encourage children to poison-proof their homes and to share information with family and others.
4. To illustrate the need for child-resistant packaging of potentially poisonous substances.
5. To help students become aware of first-aid and emergency procedures to be used in the event of accidental poisoning.

D. Suggested Discussion Questions

RISK/HAZARD

1. How can children be hurt by poisons?
2. What poisonous substances could be found in your kitchen, bathroom, basement, garage, storage area, family playroom?
3. How can accidental poisonings happen?
4. Why are so many children accidentally poisoned?
5. Why is it dangerous to store poisonous substances in food containers? In unmarked containers? Below the kitchen sink? In the medicine cabinet?
6. Do you think there are any poisons in your home? Where are they located?
7. Are there times when non-poisonous substances become poisonous? What makes this happen?

PREVENTION AND CONTROL

1. What do product labels tell us about poisonous products?
2. What should be done with product labels and instructions that come with

medicines, cleaning products, gardening products, etc.

3. Where should poisonous substances be stored? How can this help prevent accidents?
4. How can people prevent poisoning accidents?
5. How can child-resistant packaging help reduce accidental poisoning?
6. What is a poison center?

RESPONSIBILITY

1. What can you do to poison-proof your home?
2. Whom should you call if someone is accidentally poisoned?
3. What are two things you should do if someone has been accidentally poisoned? What are two things you should never do?

E. Activity Charts

NOTE: *The approximate grade level for each activity is noted. However, teachers are encouraged to adapt the activities to the learning level/abilities of their students.*

OBJECTIVE #1: RISK/HAZARD

To define poisonous substances and identify different types of substances found in and around the home.

COMPETENCY	ACTIVITIES	GRADES
a. Define the terms "poison" and "poisonous substances."	1. To help define the terms "poison" and "poisonous substances," ask students to name the various substances found in their homes. List these on the blackboard and have the class categorize the substances into groups, e.g., food, medicine, cleaning products, hobby products, etc. Go through the list again labeling items as poisonous or nonpoisonous.	3, 4, 5, 6
	2. Using the list compiled in Activity #1, discuss circumstances that could make some substances poisonous, e.g., a young child swallowing aspirin, a person taking someone else's medication. Use these examples to illustrate the roles of person, product, and environment with regard to poisons.	3, 4, 5, 6

COMPETENCY	ACTIVITIES	GRADES
b. Identify different sources of poisonous substances including those found in the home.	1. Provide and/or have children provide from magazines, etc. pictures of household substances that may be poisonous. With the children, develop a bulletin board display illustrating different sources of poison.	3, 4, 5, 6
	2. Establish committees of students to make lists of all products that may be potentially poisonous found in various areas of the home. Committee assignments should include substances found in the kitchen, bathroom, basement, garage, bedroom, family room, and storage area. Have the committe report orally to the class and construct collages using pictures or labels of products involved in the report.	4, 5, 6
c. Demonstrate the importance of reading product labels in determining potentially poisonous substances.	1. Discuss the role that product labels play in identifying poisons and potentially poisonous substances. Ask students to bring in a product label from home. As a class, discuss the information on the labels. NOTE: Parents should be informed of this assignment beforehand. Students should collect labels under parental supervision.	3, 4, 5, 6
	2. Have students make a list of the products and substances in their homes that are identified by warning labeling or packaging as potentially dangerous, e.g., products that are labeled "Use only in a well-ventilated area," "Do not mix with other cleaning agents," or "Harmful if swallowed."	5, 6
	3. Have students design labels for poisonous substances. Include slogans and illustrations. Make a school mural using the labels to illustrate poisonous substances.	5, 6

OBJECTIVE #2: PREVENTION/CONTROL

To provide students with basic information on the causes of poisoning and the proper use, storage and disposal of potentially poisonous products.

COMPETENCY	ACTIVITIES	GRADES
a. Identify the major causes of accidental poisonings.	1. Direct students in a skit with the students playing the role of poisonous substances who are adversaries and two roles of people trying to stop the poisons from injuring people. Focus on ways to protect young children from household poisons.	3, 4
	2. Role-play a situation in which a mother wants to use a paint thinner container for an art project. She empties the little bit of paint thinner that remains in the jug into a glass jar and stores it under the kitchen sink. A young child decides to investigate. What could happen?	3, 4
	3. To introduce the major causes of accidental poisoning in the home, draw a chart on the board with three headings: Person, Product and Environment. Have students brainstorm ways in which each of the three contribute to accidental poisonings.	3, 4, 5, 6
	4. Have students role-play a frantic mother on the telephone with the poison center. Her three-year-old child has just drunk ½ cup of furniture polish that she had left in a paper cup on the top of the table. Now she can't find the original container on which the first aid instructions are printed.	3, 4, 5, 6
b. Explain the importance of proper storage and disposal of potentially poisonous substances.	1. Have students in small groups develop slogans or jingles that can be used to teach younger children not to touch medicines in the home. These	3, 4

COMPETENCY	ACTIVITIES	GRADES
	can be slogans which are then put to a simple musical tune. Students can call on their knowledge of other jingles that they have heard on television or radio.	
	2. Have students check their homes to see where the following are stored: medicines, cleaning products, hobby products, garden products, food, etc. Compile a class list and discuss the relative safety or potential hazards of each storage areas. NOTE: Parents should be informed of this assignment beforehand.	3, 4, 5, 6
c. Demonstrate the importance of properly disposing empty containers that held poisonous substances.	1. Discuss the importance of proper disposal of poisonous substances, e.g., rinsing containers of poisonous substances before throwing them into a trash container that might be easily accessible to pets or small children.	3, 4, 5, 6
	2. Develop a wall mural. The children might design and paint the mural as a group project, or the teacher might provide background for the mural, such as a kitchen scene with cupboards. The children could paste their own drawings in appropriate places on the background to indicate proper storage methods. (If original drawings are not used, bright illustrations from magazines could be substituted).	3, 4, 5, 6

OBJECTIVE #3: PREVENTION/CONTROL

To encourage students to poison proof their homes and to share information with family and others.

COMPETENCY	ACTIVITIES	GRADES
a. Conduct a safety check of their homes and school.	1. Have students complete a game similar to "Cleaning Out the Kitchen Cup-	3

COMPETENCY	ACTIVITIES	GRADES
	board." (See sample game in Appendix A at the end of this unit).	
	2. Have students design and complete a "Home Safety Check List" to use in their homes. NOTE: This activity should be completed with parental supervision. (See Appendix B at the end of this unit for sample checklist).	4, 5, 6
	3. Make charts of rules to be practiced in handling potentially poisonous products such as "Places in a Home Which Should Be Poison-Proofed."	5, 6
b. Share knowledge of poison prevention with their family and friends.	1. Draw pictures — "How I Help Prevent Poisoning at Home." Mount pictures and print captions. Use these pictures for a school display.	3, 4
	2. Design poison labels for parents to put on household cleaners, medicines, garden sprays, etc.	5, 6
	3. Have students write an "editorial" on poison prevention for the school paper. Send in a list of poison prevention slogans or rules to be printed.	5, 6
	4. Design signs and slogans to be put in the home in bedrooms, bathrooms, kitchens or utility rooms. They can also be placed in school corridors, store windows, business offices, banks, cafeterias, and on buses. Short captions are best: "Touch Not — Taste Not," "Poison — Please Don't Touch," "Poison Acts Fast — So Can Children," and "Safety Caps Save Children's Lives."	3, 4, 5, 6

OBJECTIVE #4: PREVENTION/CONTROL

To illustrate the need for child-resistant packaging of potentially poisonous substances.

COMPETENCY	ACTIVITIES	GRADES
The student will be able to state the benefits of child-resistant packaging and share this information with their families.	1. On a trip to the neighborhood pharmacy with their family, have the students ask the pharmacist about the need for child-resistant packaging of drugs and to show them examples of packaging.	3, 4, 5, 6
	2. As a follow-up activity, have children orally present (third and fourth graders) or write a summary (fifth and sixth graders) of the pharmacist's presentation. In the summary, have them answer the following kinds of questions: Why should medicines be packaged in child-resistant containers? Should children be allowed to give medications? What might happen if a young child found a bottle of cough syrup and opened it?	3, 4, 5, 6
	3. Read the story "Grandma Periwinkle." (See Appendix C at the end of this unit). Have students write their own endings to the story telling what would happen without safety caps.	3, 4, 5, 6
	4. Have students ask their parents for and bring to class a collection of clean empty containers with different types of safety caps. Test them to decide which are the best compromise between ease of opening for adults and difficulty for young children.	3, 4, 5, 6
	5. In small groups, have students design their own child-resistant packages for	5, 6

COMPETENCY	ACTIVITIES	GRADES
	medicines. After talking of ways to do child-resistant packaging, have the students draw their designs.	
	6. Have students list potentially poisonous substances and medicines found in their homes. Indicate those items that have child-resistant caps. Determine whether child-resistant caps are available for the rest. If not, students should conduct a letter-writing campaign to manufacturers of these products stressing the need for child-resistant packaging.	5, 6

OBJECTIVE #5: RESPONSIBILITY

To help students become aware of first-aid and emergency procedures to be used in the event of accidental poisoning.

COMPETENCY	ACTIVITIES	GRADES
a. Contact the nearest poison center for emergency treatment information.	1. Have students locate the nearest poison center (this may also be a hospital, physician or pharmacy) in their community and post the number by their home telephone. If there is one in the immediate vicinity, arrange a visit and collect material for a class display.	3, 4, 5, 6
	2. Have students role-play situations where a baby-sitter has discovered a child chewing something with an open bottle of aspirin tablets beside her. The baby-sitter must call the poison center and take treatment information by telephone. The sitter must also notify parents and medical assistance units of the emergency situation.	3, 4, 5, 6
	3. Use a play telephone to relay poison prevention ideas from one child to	3, 4, 5, 6

COMPETENCY	ACTIVITIES	GRADES
	another. This helps a child's ability to speak clearly and distinctly as well as to practice delivering accurate emergency telephone information.	
b. Identify general first-aid procedures to follow until professional help arrives.	1. Make a list of some of the most common causes of accidental poisoning and have students consult warning labels and first-aid directions on substance containers for emergency treatment.	3, 4, 5, 6
	2. Have students list emergency poison treatment needs, e.g., syrup of Ipecac, that should be on hand in every household.	3, 4, 5, 6
	3. Have students write an action plan, listing the first steps to take in each major type of accidental poisoning, e.g., eye or skin contact and ingestion, and emergency phone numbers to call. Have students take the plan home and put it someplace where all family members can refer to it quickly. NOTE: Be sure the plan includes when and how to call for help.	5, 6

F. Teacher Resource Information

Each year, over 3,000 people die from accidental poisoning, approximately 100 of these are young children. The Food and Drug Administration's National Clearinghouse for Poison Control Centers estimates that accidents involving potentially hazardous substances occur to 500,000 children annually.

While it is true that most poisonings involve preschool children, the hazards to older children remain very real, particularly from certain types of products with which they work and play. During early school years, children share much of the curiosity of preschool children about the hundreds of items to which they are exposed in their homes, and they are almost as unrestrained in their explorations and testing as are the preschoolers. Their curiosity is aroused about new products shown on television. When they see these same products in their mothers' kitchens or on the grocery shelves, they are filled with interest, although they may be unaware of the dangerous aspects. The increasing desire of children at the primary grade level to imitate what their parents do, also exposes them to many poisoning hazards. Examples are the simple household chores of spraying insects in the kitchen and the giving or taking of medicine.

All too often, parents share their children's lack of awareness about the potential dangers of leaving medicines and everyday household and hobby products within the reach of younger brothers and sisters. Many parents do not know which substances are poisonous. They keep all kinds of substances in the home that might harm their children. By pointing out these dangers to children, they can be encouraged to share this information with their parents.

Because the small child must have freedom to explore as a natural part of his development, the environment must be made as hazard-free as possible. Storage patterns of potentially harmful materials should also be related to the child's growth and development. For example, if the child is crawling, household products should not be stored on the floor, or below the kitchen sink. If the child is a toddler, bottles and boxes containing medicines or household products should be put out of reach before answering the telephone or doorbell. If he or she is able to climb, products should be locked up or stored on a shelf that is too high for the child to reach. As the child grows older, protection must yield to education. The child's real safety will be insured when he can protect himself through knowledge.

An understanding of the poisoning potentials of certain commonly used products, and the simple steps which can be taken to prevent poisoning accidents, should be a part of every child's education. Children should acquire safe habits that will spell self-protection.

Types of Poisoning Deaths

Three types of poisoning cause most deaths among children:

Drug Poisoning — Usually from an accidental overdose.

Household Chemical Poisoning — From accidental ingestion or contact.

Vapor Poisoning — Carbon monoxide gas, usually from a car.

Why Children Die From Poisoning

THE ABSENCE OF SYMPTOMS — Children may show no early significant symptoms or warning signs, or the symptoms may not be recognized.

FEW ANTIDOTES AVAILABLE — There is nothing that can be administered that works equally well in all cases. Each poisoning has a different set of problems.

THE LACK OF TIME — Some poisons may attack quickly and one should not wait for symptoms to develop. A physician, Poison Control Center, local Rescue Squad, or hospital emergency room should be contacted immediately.

Poison Prevention Packaging

Since 1970, efforts to protect children from the dangers of accidental poisoning have been augmented by the Poison Prevention Packaging Act, which was written to protect children. Under its currently implemented standards, the package (safety cap) must be designed so that most children under 5 will not be able to open it, but most adults will be able to use the packaging easily. The packaging is a compromise between opening ease for adults and difficult access for children.

Currently, child-resistant packaging is required for preparations containing aspirin, oil of wintergreen, and controlled and oral prescription drugs. Other products required to be in this packaging are those containing methanol, anti-freeze, some oven and drain cleaners, turpentine, kindling and illuminating fluids, certain furniture polishes, paint solvents, certain iron-containing preparations and acetaminophen.

Some exemptions to these requirements are packages to which heart patients will need rapid access. Also, under the Poison Prevention Packaging Act, any licensed medical practitioner (a physician, dentist, veterinarian, etc.) or consumer

may request non-complying packaging for prescription drugs. Manufacturers are also allowed to produce one size of their other regulated products in non-complying packaging.

Data from the National Center for Health Statistics in Washington show that accidental poisoning deaths among children under five have been declining for some years. In 1972, the year when regulations under the Poison Prevention Packaging Act augmented the efforts during National Poison Prevention Week, the decline became even more rapid — 31% from the previous year. Subsequent years have shown even further reductions. By 1979, deaths to children had been reduced by 64%. At the same time, poisoning deaths due to the group of products which at one time were the most frequently ingested products, aspirin, dropped 83%.

Reducing the Risk of Accidental Poisoning

Children need to be able to recognize poisonous substances in their home and school environments. They must then learn the proper use and storage.

This section gives general information and ways of reducing the risk of accidental poisoning in four areas: Drug Poisoning, Household Chemical Poisoning, Lead Paint Poisoning and Vapor Poisoning.

Drug Poisoning Prevention

Overdoses, especially aspirin, tranquilizers, and iron tablets, kill more children than any other drugs. Very frequently accidents occur when drugs are kept on kitchen countertops, bureau tops, in purses, etc. A child has only to stand on a stool and reach.

Many medicines look tasty. Brightly colored pills and liquids look good enough to eat or drink, particularly if family members have made the mistake of calling flavored medicine "candy." Prescription drugs can be dangerous if not used as directed. Many things in the medicine cabinet can poison a child, including pain killers, antihistamines, and iron tablets.

Therefore, all medicines should be locked in a cabinet or closet. When the illness for which the medicine was prescribed is over or when the medicine is out-of-date, the remaining contents should be poured in the sink or down the toilet, the container rinsed thoroughly, resealed and put in the trash. Aspirin, most oral prescription drugs, and many poisonous household substances like drain and oven cleaners, lighter fluids, turpentine, automobile anti-freeze, and many furniture polishes are now packaged in child-resistant containers. Everyone has seen and used safety caps on medicines and household products. Even though these caps are sometimes a little difficult to work with at first, they are saving lives.

Safety closures should be re-secured properly after use. Recent findings indicate that many poisonings associated with cleaning compounds occur when the product is being used. Extreme vigilance is needed during this activity.

Teaching young children the proper attitudes about drugs is important also. Young children should be taught that medicine is not food or drink. Pills are not candy, and cough syrups are not pancake or waffle syrup even though they may look and flow like these substances. Prescription medicines are prescribed for one person only, for a specific illness and should be taken in the exact dosages the doctor has ordered. No one should use or give another person someone else's medicine. Medicines should be taken and administered only in a lighted room and the instructions should be carefully followed.

On occasion, older children are asked to give younger siblings medicine when parents are away, or when they are babysitting. Children should learn the following safety precautions:

1. Get explicit written instructions from the parents on when and how much medicine to give.
2. Read the label on the container carefully as well as the instructions from the parents.
3. Never leave the child alone with the medication. If the phone rings, take the medication with you.
4. Return the medication to its safe storage place with the safety closure properly resecured.
5. Do not call the medication candy.
6. Do not give the medication in the dark.
7. Do not take any medication yourself in the presence of the child.

Household Chemical Poisoning Prevention.

In the home, most poisonous substances are stored in the bathroom, kitchen, garage, basement or storage areas. Poison-proofing the home is the best preventive measure.

Poison-proof the kitchen. Small children naturally assume that containers in the kitchen hold good things to eat and drink. In some cases, the contents are deadly. Separate potential poisons from food. It's not unusual to find poisons on the same shelves as food. Put potential poisons under lock and key, out of sight and reach. Clear the area under the sink. There are

probably many cleaning agents stored here. Even babies who crawl have no trouble getting in. They explore everything, and put everything in their mouths — lighter fluid, caustics, lye, ammonia, dry-cleaning fluid, household cleaners, and furniture polish. Keep these cleaning agents in their original containers. Not only will the warning labels on the package serve as reminders to the whole family that cleaning agents are dangerous, but they may also eliminate the possibility of a child mistaking them for food. A good rule to teach young children is to "always ask first" before eating or drinking anything.

When shopping, choose child-resistant packaging for these dangerous household products, and after each use put the top on carefully, and resecure the safety feature. Safety caps do not work unless they are put back correctly.

In many homes, garages or storage sheds are a catchall for dangerous products families do not want to keep in the house, e.g., acid, antifreeze, gasoline, kerosene, turpentine, paint thinners, solvents, weed killers, and pesticides. All of these are potentially lethal poisons. Hazardous products like these should be locked up in a cabinet so that children cannot reach them or see them. And whenever possible, hazardous products should be bought in containers with safety closures.

But even more important, all household substances should be kept in their original containers. Never store any dangerous products in a cup, soda bottle, or other container that would normally contain food or drink. Too often, poisonings among children from one to two years of age involve makeshift containers. Don't remove warning labels. Hazardous products usually list their ingredients on the label — crucial information the doctor needs to know if a child is poisoned. Also, some labels may indicate first aid steps you can take. Many products stored in the garage require precautions when using them. Children should not handle cleaning fluids, fertilizers, pesticides, gasoline and kerosene, or any containers in which these materials have been stored.

Although the bathroom, kitchen and garage are the most likely spots where poisons will be found, almost every room in the house may contain a potential poison.

Check the bedroom for easily reached cosmetics, hair preparations, and nail polish removers. Be sure that a purse containing drugs is not left on the bed. Look for glues, cements, artist paints, varnishes, and other hobby supplies in the family room. Check for furniture polish and silver or brass polishing compounds that may be stored in closets.

Lead Paint Poisoning Prevention.

A special area of concern in households with young children is lead poisoning. Lead poisoning is a serious crippler and killer of young children. A study by the Center for Disease Control found that of 510,000 children screened, 25,300 had lead poisoning.

The Center for Disease Control states in their report: "Lead-based paint remains the most common high-dose lead source for children with lead toxicity." In other words, almost all lead poisoning in children comes from lead-based paint.

Lead-based paint may be found on the windowsills, doors, and walls of older homes. Some children — usually one to six years old — apparently like to eat leaded paint. If the poisoning is not treated early, it can lead to irreversible brain damage and even death.

Children are also exposed to lead paint poisoning by the following methods:

1. Chewing or mouthing objects covered with lead paint, such as some older pieces of children's furniture, toys, and other playthings.
2. Inhaling lead dust during restoration or repair of lead-painted homes. Adults also are susceptible to this type of lead poisoning.

To reduce the danger of lead paint poisoning, CPSC regulations effective January 1, 1973, banned paints containing more than 0.5% lead for household use. To further lessen the danger of exposure to lead, the Commission lowered the permissible lead content in paint to 0.06% for products manufactured after February 28, 1978. The stricter ban applies to consumer product paint itself, and to toys, children's articles, and furniture bearing such paint. Exempted from the ban are mirrors backed with lead-containing paint and artists' paints and related materials. Certain other items are exempted if they carry cautionary labeling.

Children should be taught that the dangers of lead paint poisoning can be reduced when the following precautions are taken:

- peeling or cracked paint should be checked for lead content by the local health department;
- children should stay out of the area when rooms in a house are being reconditioned;
- parents should examine toys and children's furniture for peeling paint; and

- students should immediately tell their parents if a younger sibling or friend has eaten paint. The child should be taken immediately to the doctor or clinic for a check-up (blood test to determine the level of lead in the blood). Lead poisoning must be treated early to be cured.

Vapor Poisoning Prevention.

Children (and adults) are often the accidental victims of poisoning from vapors in the air. It is important to keep simple safety precautions in mind when children are around.

When using sprays or other materials which send a vapor into the air, keep others away from the area — including pets. These sprays can be dangerous when they get into eyes or are inhaled into the lungs.

In addition, children should never be left in a closed car or garage with the motor running. There is a danger of carbon monoxide poisoning in these situations. Gas stoves and other heating units can be dangerous for young children if they are not supervised.

Storage and Disposal of Hazardous Products

Several basic safety rules apply to the storage and disposal of all hazardous products and substances, no matter where they are used and stored. Children should learn the following:

Products that are potential poisons should be bought in child-resistant containers whenever possible, and they should be kept in those containers.

Potentially hazardous products and substances that are not sold in child-resistant containers — for example, artists' paints and some fuels — should be kept in their original containers, and the containers should be tightly shut.

All hazardous products should be stored up high, out of the reach of children, preferably in locked cabinets. Household cleaning products, as well as other products that are potential poisons, should be stored separately from food.

Even when they seem empty, containers of hazardous products should not be left in wastebaskets where young children or pets can reach them. Instead, promptly dispose of empty containers in outdoor trash receptacles.

What To Do If Someone Is Poisoned

Students should learn basic emergency and first aid procedures as part of the curriculum. For third and fourth graders, contacting an adult becomes the first emergency procedure. For some 5th or 6th graders, emergency numbers for the rescue squad can be taught. However, it is equally important that adults be cognizant of the procedures to be followed in the event of an accidental poisoning. Teachers can share the procedures listed with parents:

1. Do not wait to see what effect the poisoning may have. If you suspect a child may have swallowed medicine or a household product, call a Poison Control Center, doctor, hospital, or rescue squad immediately! (Keep these emergency numbers near your phone). Describe what was taken and how much, giving as much information as you can. Describe the condition of the child — vomiting, drowsiness, change of color, coldness of skin. Follow the directions given by the doctor or poison center staff.
2. Call in a neighbor who can help you take care of this emergency, get the child medical aid, or help take care of other children in the family. At this point, do not try to take on all of the care and responsibility yourself.
3. For an unrelated child, call the parents. Explain what has happened, what has already been done and what is yet to be done. If the child is to be taken to a hospital or doctor's office, it may be more expedient to get the child there and have the parents go there immediately rather than come home first.

Speed, of course, is important. But equally important is the way you handle the situation. Try to keep control. A frightened and sick child will become more frightened if the adult is excited or shows panic. Accidental poisoning is a frightening experience, but if immediate measures are taken, the situation can be controlled.

Working With Parents

The cooperation of parents is tremendously important to the success of the poison prevention instruction provided children in school. It is essential that certain basic information reach parents if the child's knowledge from experiences is to be carried successfully into the family's life.

Educating adults can be accomplished through individual and group parent conferences, a PTA program in school, letters to parents, showing of films on "Parents'

Appendix A

Day," distribution of informative materials, and messages for parents prepared by the children as a result of their learning activities. This is truly an area of study in which pupils, parents or guardians, and teachers should work closely together.

G. Unit Glossary

NOTE: *These are not meant to be technical definitions. They are defined in terms that 3rd through 6th grade students can understand.*

Antidote — A remedy to counteract a poison.

Child-Resistant Packaging — Special caps on medicines and household cleansers that make it difficult for young children to open.

Emergency — A situation that requires immediate attention.

First Aid — Medical help for an injured person.

Household Chemical — Products used in the home that make work easier, e.g., ammonia, and lighter fluid. These products can be dangerous and must be used carefully.

Lead Poisoning — A type of poisoning that occurs when a child chews on or swallows paint that has lead in it.

Poison — A harmful substance that can cause illness or death when eaten or drunk even in small amounts.

Poison Center — A place to call where people tell you what to do if someone is accidentally poisoned.

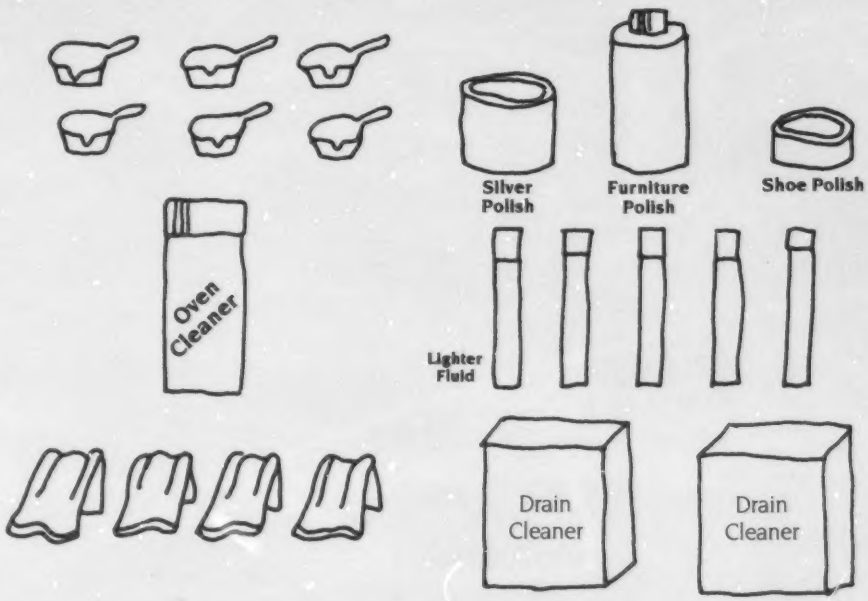
Poison Proof — A process of removing poisons from your home and being sure that all poisonous substances are safely stored.

Cleaning Out the Kitchen Cupboard — A Game

Match Words and Pictures

Mother said, "I must clean out the kitchen cupboard. I will put cans and bottles which are not safe high up where baby cannot reach them. I will leave safe things in the cupboard so that I can reach them when I need them."

Mother looked in the cupboard. These are the things she found there. Look on the next page. See the high shelf. See the low cupboard. Can you show where Mother put the kitchen things?



four towels

six pans

one can of oven cleaner

three cans of polish

two boxes of drain cleaner

five bottles of lighter fluid

Appendix A

My name is _____

This is where mother put the kitchen things to help keep baby safe from poisoning.

on a high shelf

In a low cupboard

Appendix B

Home Safety Check List

Dear

(name of teacher)

I took this check list home and helped my family check all of the places where potentially poisonous products might be found. We talked about safer places and ways in which to keep things which might be poisonous. I promised always to ask before tasting anything I found around the house. I'm going to try to protect other children who live in my home or come to visit us, too, so they will be safe from poisoning.

Here are the places my family looked to see if potentially poisonous products were packaged in safety containers and stored safely, out of reach of little children:

Bathroom	☐	Dining area	☐
Bedrooms	☐	Basement	☐
Kitchen	☐	Garage	☐
Living room	☐	Attic	☐
Closets	☐	Yard	☐
Workshop	☐		
Utility Room	☐		
Special Storage Places	☐		
Porch and under the porch	☐		
Other	☐		

My family looked especially for these things:

Kerosene and Gasoline	☐	Disinfectants and Deodorants	☐
Lye	☐	Moth Balls and Pesticides	☐
Detergents	☐	Paint Remover and Turpentine	☐
Polishes	☐	All Kinds of Sprays	☐
Ant and Rat Poison	☐	Fertilizer and Weed Killers	☐
Aspirin and Other Medicines Including Vitamins	☐	Toilet Bowl and Drain Cleaners	☐

Now we hope that our home is poison-proof!

Sincerely yours,

(name of child)

Appendix C

Grandma Periwinckle

Grandma Periwinckle has not been feeling too well lately. She went to see her doctor. He wrote out a prescription for some medicine. Grandma Periwinckle took the prescription to the drug store. She went back to the drug store a few hours later and picked up the pills. She read the label which said, "Take two every four hours." She also read the label, "CAUTION: KEEP OUT OF REACH OF CHILDREN."

Grandma Periwinckle said, "I can't open this," and she handed the bottle of pills back to the pharmacist. "Please put another cap on this bottle." "But the cap on your bottle of pills is there for a reason," said the pharmacist. "Do small children come to visit you?"

"Yes," said Grandma Periwinckle. "There are my grandson, Jeffrey, and my granddaughters, Melissa and Jane Ann. They're all under five years old. They come to visit me. And I go to visit them."

"You can ask to have your pills put into a bottle with a screw-on or snap-on cap that may be easy for you to open, but just as easy for kids to open. In fact, you can ask that all your medicines be put into easily opened, old-fashioned containers. But if you do, the children who visit you can open them just as easily. Safety caps — which most little children cannot open — provide extra protection. "With a little practice," said the pharmacist, "you'll find this cap easy to open. Here, I'll show you how."

"Oh," said Grandma Periwinckle. "I see. It takes a turn this way then a push that way. I'll practice now that I know how."

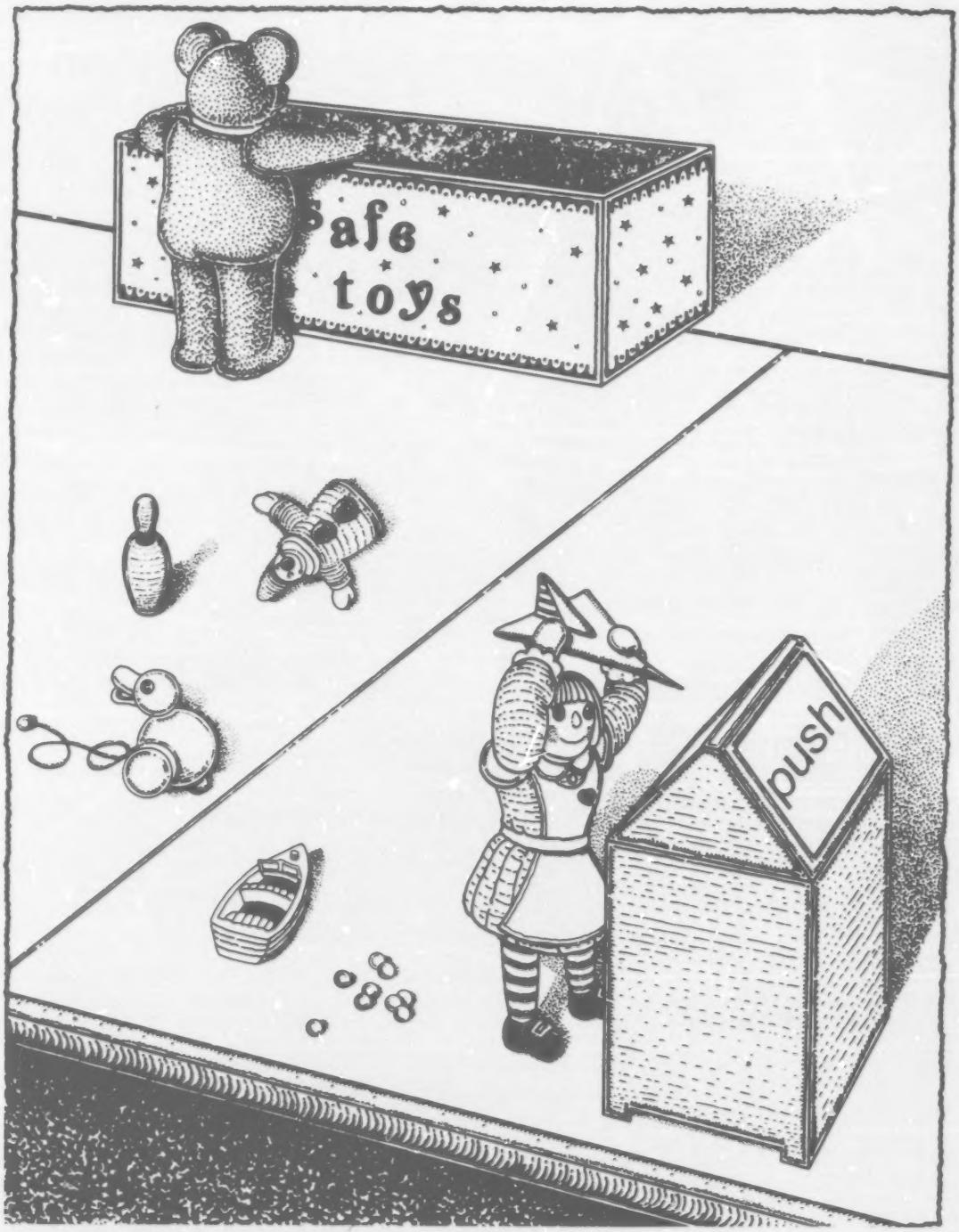
"Good idea," said the pharmacist. "A cap like this could save your grandchildren from a poisoning accident."

Grandma Periwinckle put the pills in her purse and went home. Just as she arrived at the door, her little grandson, Jeffrey came around the corner with his mother.

Grandma Periwinckle went into the bedroom, where she took off her coat and put it, along with her purse, on the bed. She then returned to the living room to talk to Jeffrey's mother. Usually, Grandma Periwinckle is very careful to keep all her household products on high shelves because, even though she has no small children of her own, Jeffrey and his friends visit her quite often. She always warns the children never to put anything into their mouths without asking first. But this time she forgot that purses containing medicines should also be put out of children's reach. As she was talking in the living room, little Jeffrey walked into the bedroom and emptied her purse. Along with her cosmetics, her change, and her handkerchief, he found the bottle of pills. He tried to open it. Tell what happened then.

Tell what might have happened without a safety cap on the bottle of pills.

Unit 6 **"For Kids' Sake"**
Toy Safety



A. Introduction

Play is often described as children's work. Toys are the tools that children use to explore and learn about their world.

Because toys come in many sizes, designs and uses, not all toys are safe for all children. Injuries can and do occur when toys are improperly designed or are used by children who are too young to use them safely.

The purpose of this unit is to promote toy safety by providing children with guidelines on the selection, use, maintenance and storage of toys. An additional goal of the unit is to encourage children to share this very important information with their families.

This unit may be used in conjunction with Unit 7: Holiday Safety and Unit 8: Electrical Safety.

B. Principle

Toys play an important role in the growth and development of children. The careful selection, use, maintenance and storage of toys can minimize or prevent toy-related accidents and injuries.

C. Objectives Overview

1. To teach students to recognize common toy hazards.
2. To provide students with safety guidelines for the selection, use, maintenance, storage and disposal of toys so they can play with toys safely and prevent accidents.
3. To inform students of the important role of the Consumer Product Safety Commission in establishing and monitoring specific toy safety regulations.
4. To encourage students to share toy safety information with their friends and family.

D. Suggested Discussion Questions

RISK/HAZARD

1. Have you ever been hurt when playing with your toys? What happened? What do you think caused the accident?
2. What could be dangerous about a toy?
3. Do your younger brothers and sisters like to play with your toys? How could this be dangerous?
4. What could happen if you leave your toys on the floor? Outside? On the steps?

PREVENTION/CONTROL

1. What should you do with the plastic wrapping from toys?
2. What do the labels on toys tell you?
3. Where should you keep toys when you're finished playing?

RESPONSIBILITY

1. What do you think should happen when people find a toy that is dangerous for children? What should parents do? Store owners? The government? What can you do?
2. What do you do if a toy breaks or tears? Have you ever thrown a toy away? Why? Where did you put it?
3. What can you do to teach younger children about toy safety?

E. Activity Charts

NOTE: *The approximate grade level for each activity is noted. However, teachers are encouraged to adapt the activities to the learning level/abilities of their students.*

OBJECTIVE #1: RISK/HAZARD

To teach students to recognize common toy hazards.

COMPETENCY	ACTIVITIES	GRADES
The student will be able to name and give examples of common toy hazards.	1. Introduce the common toy hazards by asking children to recall some of their favorite toys. List the toys on the blackboard. Ask students to look at the list and describe any of the common hazards they have seen. (See listing of hazards in Teacher Resource Section.)	3, 4, 5, 6
	2. Evaluate the safety of students' own toys by making a checklist that includes all common toy hazards. Ask students to complete the checklist at home and discuss the results in class. NOTE: 3rd and 4th graders can complete the checklist with their parents' help.	3, 4, 5, 6
	3. Illustrate the common toy hazards by preparing a bulletin board display for the classroom. Use student drawings, magazine cut-outs and photographs of students' toys.	3, 4, 5, 6
	4. Set up an art project and have students make a toy. Use heavy cardboard, construction paper, spools, string, etc. After making the toys, have students check them for safety, using the checklist developed in activity #2.	3, 4, 5, 6
	5. Develop a guide that parents can use when selecting toys. Be sure students include tips on recognizing the common toy hazards, and choosing age appropriate toys.	5, 6

COMPETENCY	ACTIVITIES	GRADES
	6. "Invent" a new toy which adheres to the toy safety principles, including the proper labeling. Ask students to write a commercial for a toy they invent. Have the students read their commercials aloud, and ask the class to judge the safety of the toy.	5, 6

OBJECTIVE #2: PREVENTION/CONTROL

To provide students with safety guidelines for the use, maintenance, storage and disposal of toys so they can play with toys safely and prevent accidents.

	COMPETENCY	ACTIVITIES	GRADES
a.	Read and interpret labels on toys.	1. Bring in samples of labels that are typically found on toys and discuss their importance. Ask students to bring in labels from their own toys. Have students categorize the labels according to the information they provide, e.g., the age group the toy is designed for; instructions on how to use it; whether materials are non-toxic and safe for infants, etc.	3, 4, 5, 6
		2. Prepare a bulletin board display to illustrate the information labels provide. Use actual labels, student drawings, pictures of labels and safety slogans created by the students.	3, 4, 5, 6
b.	Demonstrate responsible, safe play habits to younger children.	1. Identify safe play habits by asking students to name as many as they can. (Be sure all those listed in the teacher resource section are included.) Next, have students write skits, a play or puppet show that illustrates safe play practices. Perform the show for younger grades.	3, 4, 5, 6

COMPETENCY	ACTIVITIES	GRADES
c. Describe how and where broken toys can be repaired.	1. Discuss toy maintenance by asking students what they do when a toy tears or breaks. As an assignment, have students identify places in the community where broken toys are repaired.	3, 4, 5, 6
	2. Research the procedure for returning a toy to a manufacturer for repair or replacement. Have students write to a toy manufacturer requesting information on what to do if a toy is damaged, defective or missing a part when purchased.	5, 6
d. Explain safe methods of storing toys.	1. Discuss how and where students store their toys at home. List the different types of storage areas, e.g., cabinets, bookcases, toy chests, closet shelves, drawers, etc. and list the advantages and potential hazards of each. Have students brainstorm ways of eliminating these hazards.	3, 4, 5, 6
	2. Illustrate safe and unsafe storage methods by creating a bulletin board or mural. Use student drawings and pictures from magazines.	3, 4, 5, 6
e. Determine when toys are beyond repair and should be safely discarded.	1. Discuss proper disposal of toys that are beyond repair and may pose a hazard to the user. Emphasize the importance of discarding these toys in a way that protects younger brothers and sisters.	3, 4, 5, 6
	2. Dramatize the plight of a broken toy that nobody wants. Have students write a play or puppet show that illustrates proper disposal. The play can be written from the toy's point of view.	5, 6

OBJECTIVE #3: PREVENTION/CONTROL

To inform students of the important role of the Consumer Product Safety Commission in establishing and monitoring specific toy safety regulations.

COMPETENCY	ACTIVITIES	GRADES
a. Describe the Consumer Product Safety Commission's role in toy safety.	1. Introduce the role of the CPSC with regard to toy safety. Using the discussion questions provided, ask students what they think should happen when unsafe toys are found. Describe the role of CPSC to students. Ask them if they have ever noticed CPSC labels on toys, cribs, etc.	3, 4, 5, 6
b. Describe the role of manufacturers in following toy safety regulations and define the term "product recall."	1. Introduce the role of manufacturers in toy safety. Discuss why they must follow safety regulations. Have students write letters to a toy manufacturer requesting information on toy safety.	3, 4, 5, 6
	2. Role play a shopping situation. Have students prepare questions to ask the seller about the safety of a particular toy. Role play a situation where there is a complaint about a specific toy that has caused an accident.	3, 4, 5, 6
	3. Discuss what happens when a toy is found to be unsafe, introducing the term "product recall." Have students look for newspaper and magazine articles about recalled toys. Survey local toy stores for examples of recalled toys.	4, 5, 6
	4. Describe what happens when an unsafe toy is recalled. Have students write stories from the point of view of the recalled toy.	5, 6

OBJECTIVE #4: RESPONSIBILITY

To encourage students to share toy safety information with their friends and family.

COMPETENCY	ACTIVITIES	GRADES
a. Share basic toy safety principles with friends and family.	1. Design posters to be displayed at home and at school using the theme "toy safety." Have students compose limericks or catchy slogans to be included. Use student drawings and magazine pictures.	3, 4, 5, 6
	2. Write a script for a puppet show that incorporates the basic toy safety principles. Ask students to write a song or poem for the puppet show that illustrates one or more safety principles. Invite the students' younger siblings to see the puppet show and present it during a PTA meeting or parents' night.	5, 6
b. Identify their responsibility for toy safety.	1. Demonstrate what students have learned about their role in promoting toy safety by playing a "What if . . ." game with students (e.g., What if your 3-year-old sister wants to play with your model airplane — what do you do?). (See suggested topics in Appendix A.)	3, 4, 5, 6
	2. Have students write a composition responding to the question "After learning about toy safety, what will you do differently when you buy, play with or take care of a toy?" Discuss the papers in class.	5, 6
	3. Design bumper stickers with slogans to promote toy safety. Have students display them in an exhibit at school and perhaps in the community at a toy store, toy fair, during safety week, etc.	5, 6

F. Teacher Resource Information

Dolls, toy trucks and cars, toy wagons, and balls are among young children's favorite playthings. However, in 1981, according to U.S. Consumer Product Safety Commission estimates, more than 128,000 persons received hospital emergency room treatment for injuries from these and other toys.

Falls on or against toys are a frequent type of accident, but children have also been seriously injured when they have swallowed or choked on small parts, placed tiny toys in their noses and ears, and cut themselves on sharp edges and points of toys.

Protecting children from unsafe toys is the responsibility of everyone. Careful toy selection and proper supervision of children at play is still, and always will be, the best way to protect children from toy-related injuries.

Toy Safety Regulations

Under the Federal Hazardous Substances Act and the Consumer Product Safety Act, the Commission has set safety regulations for certain toys and other children's articles. Manufacturers must design and manufacture their products to meet these regulations so that hazardous products are not sold.

Some of the Commission's regulations set safety specifications for specific kinds of products, while others deal with hazards such as sharp edges or points that can occur on a wide variety of toys or children's products.

Manufacturers must assure that their products comply with the toy safety regulations. Consumer Product Safety Commission investigators inspect firms that make or import these products to ensure that the regulations are being followed. During these inspections, samples of products are collected for testing at Commission laboratories to determine whether they meet the regulations.

Products that violate certain Consumer Product Safety Commission toy regulations are subject to recall. When a banned toy is recalled, retailers who have sold that toy are required to post signs in their stores advising consumers that the product may be returned for a refund.

Some of the products that meet Consumer Product Safety Commission regulations may have a label stating their compliance.

Common Toy Hazards

1. **SHARP EDGES** — Toys intended for children under eight years of age must, by regulation, be free of sharp glass and metal edges. With use, however, older toys may break, exposing cutting edges.
2. **SMALL PARTS** — Toys can break to reveal parts small enough to be swallowed or become lodged in a child's windpipe, ears or nose. The Commission has banned small parts in new toys intended for children under three. This includes removable small eyes and noses on stuffed toys and dolls, and small, removable squeakers on squeeze toys. Infant toys, such as rattles or squeeze toys, should themselves be large enough so they cannot become lodged in a child's throat.
3. **LOUD NOISES** — Toy caps and some noise-making guns and other toys can produce sounds that can damage hearing. The following label is required on boxes of caps producing noise above a certain level: "WARNING — Do not fire closer than one foot to the ear. Do not use indoors." Toys producing noise that can injure a child's hearing are banned.
4. **CORDS AND STRINGS** — Toys with long strings or cords may be dangerous for infants and very young children. The cords may become wrapped around an infant's neck, causing strangulation. Toys with long strings, cords, loops, or ribbons should never be hung in cribs or playpens where children can become entangled.
5. **SHARP POINTS** — Toys that have been broken may have dangerous points or prongs exposed. Stuffed toys sometimes have wires inside that can cut or stab. A Consumer Product Safety Commission regulation prohibits sharp points in new toys and other articles intended for use by children under eight years of age.
6. **PROPELLED OBJECTS** — Projectiles, guided missiles and similar flying toys, can be turned into weapons and in particular, can injure eyes. Children should never be permitted to play with adult lawn darts or other hobby or sporting equipment that have sharp points.
7. **ALL TOYS ARE NOT FOR ALL CHILDREN** — Toys designed for older children should be kept out of the hands of little ones; chemistry sets or hobby items can be extremely dangerous if misused. Older children should be taught to help keep their toys away from younger brothers and sisters. Even balloons, when deflated or broken, can cause choking or suffocation, if young children put them in their mouths. More children have suffocated on deflated balloons and pieces of broken balloons than on any other type of toy.

8. **ELECTRIC TOYS** — Electric toys that are improperly constructed, or wired can shock or burn. Electric toys must meet mandatory requirements for maximum surface temperatures, insulation of electrically live components, and prominent warning labels. Electric toys with heating elements are recommended only for children over eight years of age. Children should be taught to use electric toys cautiously and under adult supervision. Although some of the regulations pertain to children under eight years of age, children over the age of eight can also be injured by the hazards listed above.

What Students Should Know About Selecting, Using, Maintaining and Storing Toys

Not all toy-related injuries can be prevented by government regulations. Therefore, it is important that children, their parents and other adults be exposed to these basic toy safety principles.

1. **WHEN BUYING TOYS . . .**

   Choose toys with care. Toys should suit the skills, abilities, and interests of the individual child. Avoid toys that are too complex for young children. Remember that a toy that is safe for an eight-year-old may be hazardous for a younger child. Look for quality design and construction in all toys for all ages.

   Be a label reader. Look for and heed age recommendations, such as "Not recommended for children under three." Look for other safety labels including "Flame retardant/Flame resistant" on fabric products and "Washable/hygienic materials" on stuffed toys and dolls.

   Make sure that all directions or instructions are clear to you and, when appropriate, will be clear to the child.

   Avoid hand-me-down toys with small parts for children under three years of age. Avoid toys that shoot objects that can injure eyes.

   Arrows and darts used by children should have blunt tips made from resilient materials, such as rubber or plastic suction cups. Make sure these tips are secure.

   When buying for infants or very young children, avoid toys with anything that could become wrapped around their necks and strangle them.

   Toy boxes, too, should be selected for safety. Choose a chest with a lightweight lid that can be opened easily from within. The lid should stay open when raised and not fall unexpectedly on a child. For extra safety, be sure there are ventilation holes for fresh air. Watch for sharp edges that could cut and hinges that could pinch or squeeze.

2. **WHEN USING TOYS . . .**

   Since many children are injured by falling on and misusing toys, they should be taught responsible, safe play habits. Explain to the child how to use toys properly and safely.

   Encourage children to put their toys away so they do not get broken and so that no one else trips or falls on them.

   Plastic wrappings on toys can cause suffocation. They should be discarded at once before they become deadly playthings.

3. **WHEN MAINTAINING TOYS . . .**

   Check all toys periodically for breakage and potential hazards. A dangerous toy should be thrown away or repaired immediately. Examine weak parts that could become hazardous.

   Edges on wooden toys that have become rough or surfaces covered with splinters should be sanded smooth. When repainting toys and toy boxes, avoid using leftover paint, unless purchased recently. Older paints may contain more lead than newer paints, which are regulated by the Consumer Product Safety Commission.

4. **WHEN STORING TOYS . . .**

Teach children to put their toys safely away so no one can trip and fall over them.

See that toys used outdoors are stored after play. Rain or dew can rust or damage a variety of toys and toy parts, making them dangerous to children.

5. **A SPECIAL NOTE ABOUT HOLIDAYS . . .**

The holiday season will find over 150,000 different kinds of toys for sale in an estimated one million retail outlets. Despite the efforts of toy manufacturers, retailers, Consumer Product Safety Commission inspectors, and other Federal, State and local government agencies, it is impossible to examine every toy.

It is possible for parents, relatives, and older sisters and brothers to check every new toy they select and every old toy around the house for possible hazards. Teachers can help to achieve this goal by alerting students to possible hazards associated with toys — both by encouraging a sense of responsibility when they choose toys for younger brothers and sisters, and by increasing their awareness of the precautions that must be taken with their own gifts.

Appendix A

G. Unit Glossary

NOTE: These are not meant to be technical definitions. They are defined in terms that 3rd – 6th grade students can understand.

Age Appropriate Toy – A toy that is made for a specific age group, e.g., infants, 6-10 year olds.

Label – A tag or description on a toy that tells how it should be used, the age group it was made for or what it is made of.

Misuse – A toy is designed to be used in certain ways. When a toy is used in a different way, or by a younger child, it is being misused and can cause accidents.

Product Recall – A way to remove toys found to be dangerous to children from stores. The CPSC can request that the manufacturer remove the toy from all stores.

Propelled Objects – A part of a toy or an entire toy that can be thrown. These can be dangerous because it could injure an eye.

Safety Regulation – A rule that toy manufacturers must follow.

Situations to present to students for discussion:

What if . . .

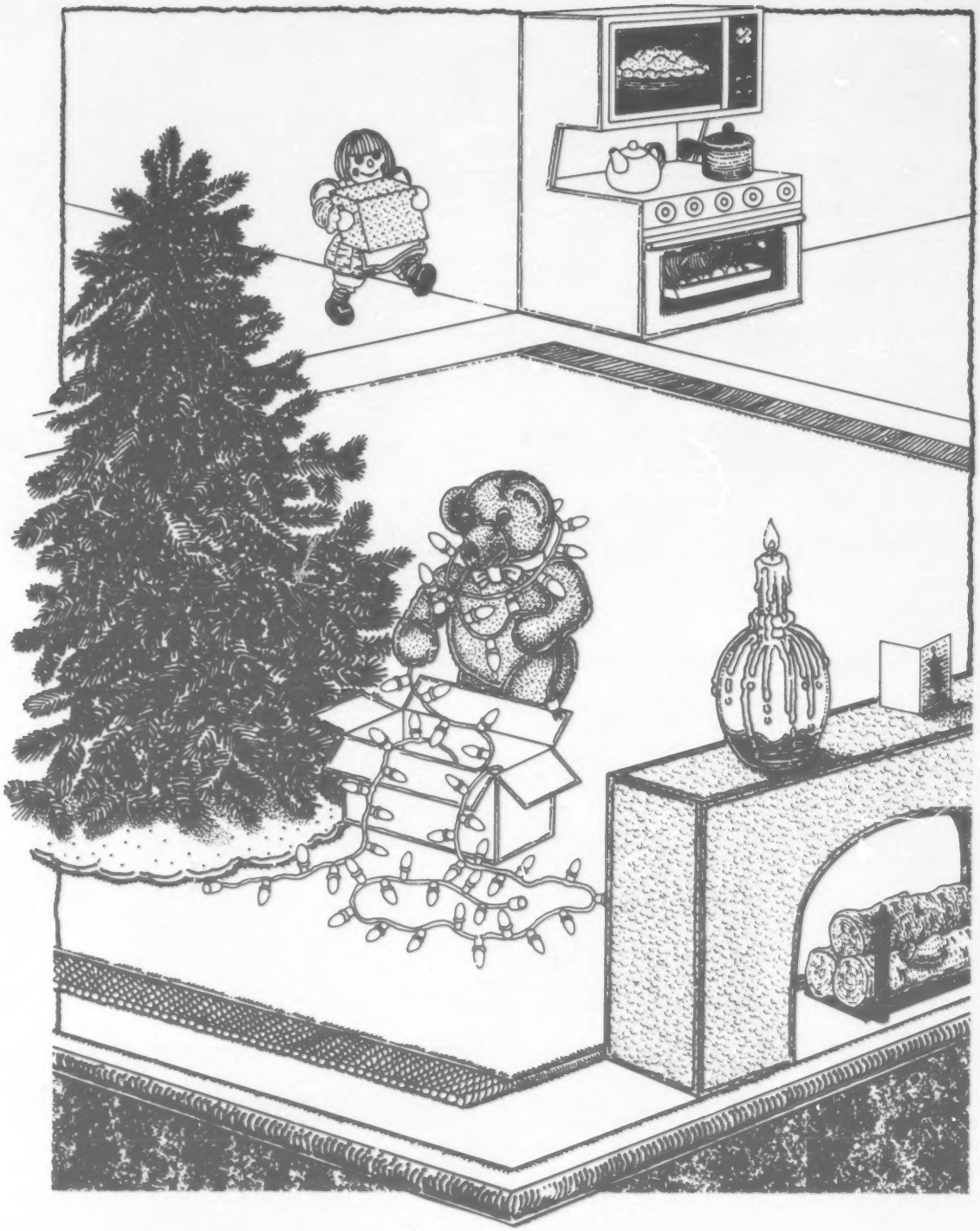
Your 3-year-old sister wants to play with your model airplane. What do you do?

Your 6-month-old cousin is playing with a toy that has many small parts. What do you do?

You are shopping for a birthday present for a friend who is 9 years old. How can the label on a toy package help you choose a gift?

Your new toy breaks after playing with it one time? What do you do? Whom can you tell?

Unit 7 **"Goblins and Glitter"**
Holiday Safety



A. Introduction

Holidays are a special time for children and their families. However, use of many holiday products results in injuries that could be prevented. This unit aims to teach students holiday safety principles which can help reduce the risk of injury during holiday celebrations. By identifying the hazards and recognizing the injuries associated with holiday products, students can develop attitudes and practices which will ensure a future of safe, happy, holiday celebrations for themselves and their families.

This unit includes three major holidays: Halloween, Christmas and Fourth of July. Information in the units on Toy Safety and Home Fire Safety may be used in conjunction with this unit.

Note: In teaching this unit, parental involvement and cooperation are strongly recommended. Ultimately, parents will select and purchase most holiday costumes and decorations. By informing them of the goal of this unit beforehand, and by involving them in some of the activities, parents, teachers and students can work together to promote holiday safety.

B. Principle

Holiday seasons provide a break from routine and are a time for celebration. However, students need to be aware of the inherent risks and hazards in holiday paraphernalia.

C. Objectives Overview

1. To increase student awareness of the potential hazards associated with various holiday products.
2. To identify the steps involved in the proper selection, use, maintenance, storage and disposal of holiday products.
3. To encourage students to assume responsibility for holiday safety and to share their knowledge with parents and siblings.

D. Suggested Discussion Questions

RISK/HAZARD

1. How could products we use during holidays be dangerous? (Halloween masks, Christmas trees, ornaments, firecrackers, fireplaces)
2. Why is it dangerous for young children to play with firecrackers?
3. What could happen if: You put lighted candles on the Christmas tree? Your baby sister could pull ornaments off the tree? The Christmas lights were not working properly? A Christmas tree was next to the fireplace?

PREVENTION/CONTROL

1. What can you do to make a Halloween costume safe?
2. Why is it important to show your parents your trick or treat bag before eating the contents?
3. What do the labels on fireworks tell you about safety? What do the instructions tell us?
4. Why are some fireworks illegal?
5. Why should Christmas trees be placed away from sources of heat?

6. Where should Christmas tree ornaments be stored when not being used?
7. Why should you never use fireworks unless an adult is supervising?

RESPONSIBILITY

1. How can we teach younger children about holiday safety?
2. What could you do to make holidays safer?

E. Activity Charts

NOTE: *The approximate grade level for each activity is noted. However, teachers are encouraged to adapt the activities to the learning level/abilities of their students.*

OBJECTIVE #1: **RISK/HAZARD**

To increase student awareness of the potential hazards associated with various holiday products.

COMPETENCY	ACTIVITIES	GRADES
The student will name various kinds of injuries that can result from Fourth of July, Halloween, and Christmas festivities.	1. Illustrate the connection between holiday products and potential hazards. Prepare a game for students with pictures of holiday products and potential hazards and have them match the correct pairs.	3, 4
	2. Invite a fireman, policeman or public health authority to discuss the kinds of situations that can spoil a holiday, including the types and frequencies of holiday accidents. List examples of injuries and accidents on the chalkboard or on chart paper during the discussion. Categorize the examples of injuries and accidents according to the holiday (some may overlap).	3, 4, 5, 6
	3. Create stories about holiday accidents. For each example, ask students to identify the cause of the accident: person, product, or environment. Discuss how these accidents could be prevented.	3, 4, 5, 6
	4 Make original holiday safety posters. Supply materials and have students	3, 4, 5, 6

COMPETENCY	ACTIVITIES	GRADES
	invent slogans for their posters using the facts they have learned about holiday product-related hazards. Prizes may be awarded to the best posters, and finished posters may be displayed in the classroom, on a bulletin board, in a hallway, or in the school cafeteria.	
	5. Create a television show called "What's My Hazard?" Each student portrays a hazard and gives clues to the class. The class has to try to name the hazard. Students can also perform the show for grades 3 and 4.	5, 6

OBJECTIVE #2: **PREVENTION/CONTROL**

To identify the steps involved in the proper selection, use, maintenance, storage and disposal of a holiday product.

FOURTH OF JULY

COMPETENCY	ACTIVITIES	GRADES
a. List features of a safe costume or product associated with the holidays.	1. Initiate a discussion on how students celebrate the Fourth of July. Talk about the use of fireworks and possible dangers.	3, 4, 5, 6
	2. Discuss the dangers posed by fireworks. Invite a local firefighter to speak on fireworks safety. Present the following situations in which children were injured using firecrackers, then have an open discussion:	3, 4, 5, 6
	A two-year-old boy ran into an ignited hand fountain being held by his sister. The boy received burns on one hand.	
	A five-year-old boy's shirt sleeve was ignited by a sparkler during an argument with his friend. He burned his arm.	

COMPETENCY	ACTIVITIES	GRADES
	3. Conduct a research project. Ask students to find out which fireworks are legally permitted in their state and local community. NOTE: This information can be presented to 3rd and 4th graders as part of Activity #1.	5, 6
b. Describe how holiday products can be used, maintained, stored and disposed of safely.	1. Present safety rules to follow in using, storing, and disposing of fireworks. Have students generate a list of rules to follow and distribute the list to parents. Be sure the following are included. — Always read directions. — Have an adult present. — Buy from reliable fireworks sellers. — Ignite outdoors. — Have water handy. — Never experiment or attempt to make your own fireworks. — Light fireworks one at a time. — Never reignite malfunctioning fireworks. — Keep at a safe distance from lit fireworks. — Never give fireworks to small children. — Store unused fireworks in a cool, dry place. — Dispose of fireworks properly. — Never throw fireworks at another person. — Never carry fireworks in your pocket. — Never light fireworks in metal or glass containers.	3, 4, 5, 6
	2. Create a story or play to dramatize fireworks safety. The theme could center on a Fourth of July when there were no fireworks because people had misused them. Have students act	3, 4, 5, 6

	COMPETENCY	ACTIVITIES	GRADES
		out the parts of fireworks, children, manufacturers, etc. The play can be shown to younger grades.	
		3. Illustrate the major safety guidelines for fireworks. Have students write a tonal poem. Ask each student, or small group of students, to write a stanza. Illustrate the poem with pictures and, if possible, have students who play musical instruments help with the sound effects.	5, 6
HALLOWEEN			
	a. List features of a safe costume or product associated with the holidays.	1. Evaluate students' Halloween costumes for safety. Prior to Halloween (about one month) ask students to bring in a Halloween costume they wore in a previous year or plan to wear this year. In small groups, have them evaluate the costumes for safety and list changes that could be made to make them safer.	3, 4, 5, 6
		2. Role play situations that illustrate Halloween safety, e.g., a mother and father are helping their children choose costumes and dress up to go trick-or-treating. What kinds of advice and instruction will these parents give to the children? How will the children respond?	3, 4, 5, 6
		3. Demonstrate Halloween safety practices. Ask students to bring to class an old pillowcase or other light colored bag or sack which could be used as a treats bag. Have students decorate the bags with bright colors and reflective adhesive tape. Simulate a filled trick-or-treat bag. Have students check the treats to assure that the items are safely sealed or have not been tampered with.	3, 4, 5, 6

COMPETENCY	ACTIVITIES	GRADES
	4. Survey parents to determine their interest in a costume-making workshop. During the workshop, children can make their own Halloween costumes and/or masks with materials brought from home. Parents can be invited to participate.	3, 4, 5, 6
	5. Introduce the concept of flame-resistant and flammable fabrics and their relationship to Halloween costumes. Discuss the difference and the importance in relation to Halloween costumes.	5, 6
b. Describe how holiday products can be used, maintained, stored and disposed of safely.	1. Demonstrate the STOP! DROP! ROLL! technique for extinguishing burning clothing. Using mats, allow the students to practice the technique.	3, 4, 5, 6
	2. Develop a Halloween safety newsletter to share with parents, siblings and other classes. Include guidelines for safe costumes and tips for safe trick-or-treating. Illustrate the newsletter with drawings of safe and unsafe costume features and label them accordingly.	5, 6
	3. Form a Halloween "Safety Tricks Committee" to teach younger children about the need for care and caution during the holiday. The committee may write a script for an original skit to be presented to younger children, read original stories they have written, or teach the children a safety song. Or, older students can put on a costume "fashion show" to teach younger children about costume safety. Suitable, "scary" background music can be provided, while models in costume parade down the runway. Commentators and announcers can	6

	COMPETENCY	ACTIVITIES	GRADES
		develop a script which calls attention to the safety features of each costume, e.g., "Our hobo is wearing a stunning shirt in basic white, certain to stand out in the dark. This beautiful shirt is edged with reflective tape..."	
CHRISTMAS			
	a. List features of a safe costume or product associated with the holidays.	1. Discuss how families select holiday decorations: trees, lights and ornaments. Which items are bought each year? saved from year to year? made at home? Are natural or artificial trees preferred?	3, 4, 5, 6
		2. Construct a class display of holiday decorations that are safe and unsafe. Use actual products, student drawings, models and pictures. Have students label each safety feature and hazard.	3, 4, 5, 6
		3. Identify possible dangers associated with trees, lights and ornaments. Categorize the danger according to those caused by the person, product and/or environment. Discuss the difference between domestic and imported lights with regard to regulations. If possible, bring in samples to compare. (Fill in those hazards which students miss.) Have students make a classroom bulletin board or poster to list these safety guidelines.	5, 6
	b. Describe how holiday products can be used, maintained, stored and disposed of safely.	1. Illustrate safe placement of Christmas decorations. Using colored paper, string, straws, etc., have students decorate a shoe-box to resemble either a safe or unsafe room decorated for the holidays. Unsafe rooms may show trees placed too close to a fireplace a candlelit table	3, 4

COMPETENCY	ACTIVITIES	GRADES
	near a curtained window, wires crisscrossed on the floor, etc. Have rooms labeled either SAFE or UNSAFE, and identify the possible injuries that could occur.	
	2. Prepare an art project to create tree ornaments. Have students create tree ornaments using colored paper, string, etc. Then have the class check each ornament to see if it meets safety guidelines.	3, 4, 5, 6
	3. Discuss safe storage and disposal of holiday decorations. Ask students where their families store Christmas decorations after the holidays. Dramatize proper/improper storage and disposal of decorations. Have students write stories from the point of view of a Christmas tree, ornament or light.	3, 4, 5, 6
	4. Compose safety verses using a familiar holiday melody, e.g., "Jingle Bells." Have students make and illustrate a songbook.	3, 4, 5, 6
	5. Demonstrate and discuss the dangers of defective lights. Provide some sample strings of lights for students to examine. Students should be warned not to try to repair defective products themselves; they should be encouraged to point the dangers out to their parents.	5, 6
	6. Conduct a research assignment. Have students locate a local store where Christmas lights are sold. Ask them to visit the store, read the labels and instructions on the packages and write down what they say about the safe usage. Have them bring these lists to class and compile one class list of safety features.	6

OBJECTIVE #3: **RESPONSIBILITY**

To encourage students to assume responsibility for holiday safety and share their knowledge with their parents and siblings.

COMPETENCY	ACTIVITIES	GRADES
The student will demonstrate and share holiday safety information with family and friends.	1. Make a poster illustrating an important holidays safety principle. Hang the posters in the classroom and hallways during holiday seasons.	3, 4, 5, 6
	2. Prepare skits on holiday safety. Invite parents to view the skits and/or present them to younger siblings; incorporate the skits into school holiday plays.	3, 4, 5, 6
	3. Make a summary list of all holiday safety practices described in this unit. Have each student select one practice which he/she will promote at home. Ask students to develop slogans and posters for their safety practice and display at home and in school.	3, 4, 5, 6
	4. Prepare a puppet show for kindergarten children to illustrate the safety principles taught in this unit. The "puppets" can be trees, ornaments, fireplaces, Halloween masks, firecrackers, etc.	5, 6

F. Teacher Resource Information

Each year during holiday seasons, many youngsters are severely injured in accidents. During the Fourth of July the obvious hazards are from fireworks. The CPSC estimates that in 1981, approximately 11,400 persons were treated in hospital emergency rooms for fireworks injuries. A majority of the injuries involved product misuse rather than malfunction. Firecrackers, especially the larger explosive items that have been banned by federal regulations since 1966, account for a major portion of fireworks injuries.

During Halloween, most accidents can be related to motor vehicles whose drivers were unable to see children clearly; environmental hazards like steps, uneven pavement, or obstacles which may be indistinguishable in the dark; or the potential flammability of costumes, wigs, and other paraphernalia.

At Christmas, most hazards occur when trees, lighting and ornaments are faulty or misused. Fireplaces pose additional dangers.

The Risk of Holiday-Related Injuries Can Be Reduced

Students should learn the following guidelines for holiday safety.

Fourth of July

Younger children should not be allowed to play with fireworks under any circumstances. Fireworks are not toys for children. The sparkler, considered by many as the ideal "safe" firework for the young, burns at very high temperatures and can easily ignite clothing. Children cannot appreciate the danger involved and cannot act correctly in case of an emergency.

Before using fireworks, older students should be sure they are legally permitted in their state and local area. Fireworks should be used only with extreme caution and only when an adult is present. Children should not run or horse-play with fireworks. Other people should be out of range before lighting fireworks. Used carelessly, they can cause painful, possibly severe injuries.

Before using any fireworks, warning instructions printed on the label should be read and followed. Fireworks should be lit outdoors in a clear area away from houses and flammable materials, such as gasoline cans. Fireworks should never be ignited in a container, especially a glass or metal container. A bucket of water should be nearby for emergencies and for dousing fireworks that ignite. Malfunctioning fireworks should be soaked in water, then thrown away. Unused fireworks should be stored in a dry, cool place, following any special storage directions.

Halloween

Halloween costumes should be light or bright enough to make them clearly visible to motorists on dimly-lit, residential streets. For greater visibility in dusk or darkness, costumes may be decorated or trimmed with reflective tape which will "glow" in the beam of a car's headlights. (Reflective tape is usually available through hardware, bicycle, and sporting goods stores). Bags or sacks should also be light-colored, or decorated with reflective tape. In addition, children can carry flash-lights to see and be seen more clearly.

Costumes should be flame-resistant. Students and their parents should look for "Flame-Resistant" labels on costumes, masks, beards, and wigs. Remind stu-

dents, however, that "Flame-Proof" or "Flame-Resistant" labels do not mean that costumes will not catch fire, only that they will "resist" burning and should extinguish quickly once removed from the ignition source. If they are making their costumes at home, students should avoid flimsy materials and outfits with big, baggy sleeves or billowing skirts; these are more readily exposed to ignition sources than are tighter-fitting clothes. In selecting costumes, parents should be cautioned that color dyes and chemicals may prove harmful to some children if contacted by the mouth, eyes, or open sores or cuts on the skin.

Costumes should be short enough to prevent tripping. Hats should be tied securely so that they will not slip over children's eyes. Well-fitted shoes will make walking easier; children should be cautioned against wearing Mother's high heels. Also, warn students against carrying knives, swords, or other sharp instruments, unless they are soft or flexible make-believe ones. If they fall while carrying sharp instruments, children could hurt themselves or others.

A natural mask of cosmetics applied directly to the skin is often safer than a loose fitting mask which might restrict breathing, or obstruct the child's vision. This could possibly cause a fall, or prevent children from seeing oncoming traffic. If a mask is to be used, the eyeholes should be cut large enough to allow full vision, and the mask should fit securely.

Younger children should always be accompanied by parents, older brothers, sisters, or other responsible adults. Students who have agreed to supervise younger trick-or-treaters should keep the children in sight at all times.

Youngsters should be encouraged to use sidewalks and not to walk in the street except at crosswalks or intersections. They should be reminded not to run between parked cars, or across yards and lawns, where they can trip over lawn ornaments, or run into clotheslines that are invisible in the dark.

Children should restrict their trick-or-treating to homes with porch or other outside lights glowing. Unless the adult accompanying them gives approval, they should not enter a house or apartment.

Students should be instructed to bring their collected treats home before eating them. It is good practice for parents to check treats to assure that items are safely sealed.

Children should inspect their own homes for safety. To make things safer for others, students can help their parents remove breakable items or obstacles like tools, ladders, or children's playthings from the steps, lawns, and porches or their own homes. Candelit jack-o-lanterns should be kept away from landings and doorsteps where trick-or-treaters' costumes might brush against the flame. If used indoors, jack-o-lanterns should be placed away from curtains, decorations, or other furnishings that can be easily ignited.

Christmas

Trees

Natural trees should be selected for their freshness. The higher the moisture content of the tree, the less likely it is to dry out and become a serious fire hazard. One way to ensure that the tree is fresh is to cut it personally. Tree farms are within a short driving distance in many locations. Before buying a cut tree, it should be checked for freshness. Brittle branches and shedding needles are a sign of dryness. Fresh needles will bend between the fingers without breaking. If many needles fall off when you tap the tree lightly, the tree is too dry. Because trees may be sprayed green to improve their appearance, color is not always a sign of freshness.

After the tree is brought home, it should be stored outside if possible, until ready to decorate. When the tree is brought inside, the butt end should be cut one or two inches above the original cut, then the tree should be placed in a sturdy, stable holder with a wide base. A large tree needs stability, such as strong wire fastened on the wall or ceiling from at least two points.

Children should understand that the tree needs water. The holder should be filled with water until the cut line is covered. Water should be kept at this level while the tree is in use. For children, this may mean refilling the holder every day. Christmas trees should be placed a good distance from any heat source to prevent fire. The tree should be disposed of when the needles begin to fall off in large quantities. This is a sign that the tree is becoming dangerously dry. The tree or branches should not be burned in a fireplace.

Metal trees also present hazards. They can be the source of a serious shock hazard if electric lights are attached to the tree. If sharp metal edges cut the cord insulation, or metal needles touch an electrically energized component, the whole tree will become electrically charged. Children should never attach Christmas tree lights to a metal tree.

Plastic trees should be made of fire-resistant material. These trees are labeled "Flame-Resistant." This does not mean

that the tree will not burn, but only that it will not catch fire easily. As with natural trees, plastic trees should be kept away from heat sources. Children should be taught to look for safe places for the plastic tree.

Lighting

Tree lighting as well as outdoor lighting instructions provide the user with reasonable safety precautions which may prevent many injuries. However, be sure to inspect light strings for damage before purchasing them. Only lights with a label signifying that the equipment has been approved by a nationally recognized testing agency should be used.

Both tree and outdoor lights should be tested each year for damage such as frayed wires, loose connections, broken or cracked sockets, and spots where bare wire is exposed. Before beginning to decorate, the light set should be checked for smoking and melting by placing it on a non-flammable surface and plugging it in for 10-15 minutes. Also, check to see if bulbs glow abnormally brightly when power is turned on. (This applies especially to miniature or midget lights and may indicate that the wrong voltage bulb is being used.) Students should be urged to handle these products carefully while unpacking, checking, decorating, and repacking to avoid the chance of damage to lights and circuits which can lead to injuries. Curtains and other flammable products should be kept away from bulbs.

When the family leaves the house or retires for the night, all lights should be turned off by unplugging them. Any outdoor decorative lights should be weatherproof and clearly identified as designed for outdoor use. Indoor lights should not be used outdoors. As soon as the holiday season is over, the outdoor lighting should be removed. Any decorative candles and flammable materials, such as pine boughs should always be kept out of the reach of children.

Ornaments

Breakable ornaments or ornaments with small detachable parts should be placed on higher branches of the tree where small children or pets cannot reach them and knock them off. Children should realize that broken ornaments can cut them and that small ornaments placed in the mouth are dangerous. Trimmings used on trees or around the home should be non-combustible or flame-resistant whenever possible. Virtually all tinsel or artificial icicles marketed today are lead free. However, be sure old tinsel is discarded if there is any uncertainty about its composition.

Some traditional holiday decorations may be harmful if eaten. Mistletoe and holly berries, as well as other plants, should be kept out of the reach of young children. Fire salts, which produce a multi-colored effect when thrown on a wood fire, contain heavy metals. Children should learn that accidental swallowing of fire salts can cause serious sickness and vomiting.

G. Unit Glossary

NOTE: These are not meant to be technical definitions. They are defined in terms that 3rd through 6th grade students can understand.

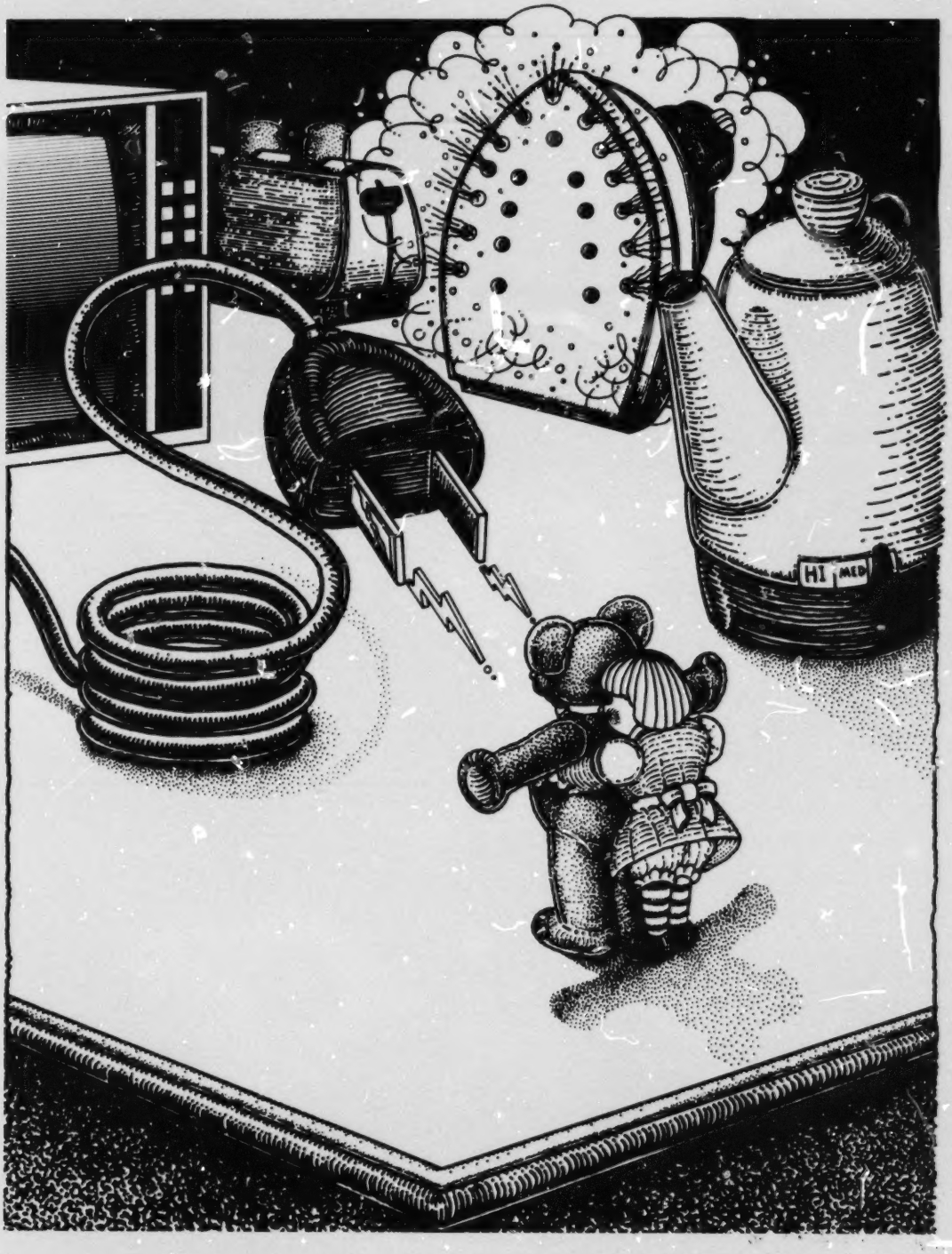
Flame Resistant – Material that will not burn easily.

Flammable – Something that will burn easily.

Illegal Fireworks – Fireworks that by law cannot be sold in a community or state.

Unit 8

"The Safety Connection"
Electrical Safety



A. Introduction

For nearly a hundred years, electricity has been part of the daily lives of most Americans. We depend on electrical products to provide light, make work easier, entertain, and increase comfort.

Most electrical products are designed and built so that they are safe, but sometimes a defect in the product causes an electrical malfunction. Furthermore, electricity itself can be lethal if not treated with respect.

The purpose of this Unit is to alert students to potential electrical hazards, particularly electric shock and electrical fires; to provide information on the proper use, and maintenance of electrical products; and to describe first aid procedures in case of an emergency.

B. Principle

Electricity is an essential component of modern day living. However, if electricity is not used carefully, electrical fires and shock can occur. Students should learn the causes of electrical fires and shock and how they can be prevented through proper use, maintenance, storage and disposal of electrical products.

C. Objectives Overview

1. Provide students with a basic knowledge of electricity and the risk and hazards associated with improper use.
2. Identify ways to prevent electrical accidents and injuries through safe use of electrical products.
3. Teach students basic first aid procedures in case of electrical shock or fire.

D. Suggested Discussion Questions

RISK

1. How can electricity shock you?
2. How can electricity cause a fire?

HAZARD

1. What could be dangerous about these situations:
   flying a kite in the rain.
   using a hair dryer when your hands are wet.
   plugging too many things into an extension cord.
   a baby putting an extension cord in his/her mouth.
   keeping a radio on the side of the bathtub.
2. What could happen if you tried to fix an electrical toy that was broken?

PREVENTION AND CONTROL

1. What should you do if these things happen?
   smoke comes out of an electrical wall outlet.
   you smell something burning while using your hair dryer.
   sparks come out of the toaster.

2. Where should you keep electrical toys when you are not playing with them? a hair dryer? a radio?

RESPONSIBILITY

1. What safety tips could you teach your parents about electricity? What could you teach younger children?
2. Whom should you call if someone with you gets an electric shock? What should you do until help arrives?
3. What can you do to help your family use electricity more safely?

E. Activity Charts

NOTE: *The approximate grade level for each activity is noted. However, teachers are encouraged to adapt the activities to the learning level/abilities of their students.*

OBJECTIVE #1: RISK/HAZARD

Provide students with a basic knowledge of electricity and the risks and hazards associated with improper use.

COMPETENCY	ACTIVITIES	GRADES
a. Define electricity and give examples of how it is used.	1. Have students list ways in which electricity is used in their lives. Ask them to note electrical appliances they use.	3, 4, 5, 6
	2. Have students make a wall-size collage of magazine clippings, newspaper articles, and pictures about electrical safety. Let students write safety tips on the collage. Allow students to explain what different pictures on the collage mean to other classes in the school and to visiting parents.	3, 4, 5, 6
	3. Have students make a diagram showing the flow of electricity in a home, illustrating the application of basic electrical equipment, e.g., circuit breakers, fuse boxes, two- and three-prong extension cords, etc.	6
b. Identify sources of electrical dangers in the home.	1. Create a human extension cord with several children. Have other children become potential hazards, such as appliances, heaters, water faucets, and feet which can damage the cord.	3, 4, 5, 6

COMPETENCY	ACTIVITIES	GRADES
	Have children act out what happens when the cord is misused and fails.	
	2. Explain the causes of electrical shock and electrical fires. Invite a local fireman or an electrician to speak to the class about these hazards.	3, 4, 5, 6
	3. Divide the class into teams. Using clay models in shoe boxes made up like a house, have each team move the clay models around the boxes to illustrate situations which will lead to injury. Then have them write procedures to follow in case of accidents. Allow time for each team to share its work with the rest of the class.	5, 6
	4. Brainstorm with the students, compiling a list of danger signs that signal an electrical problem. Include flickering lights, slowing down of a motor, fuse blowing or circuit breaker opening, toaster or heater not heating properly, or television picture shrinking. Then have students write stories using these hazards as themes.	5, 6

OBJECTIVE #2: PREVENTION/CONTROL/RESPONSIBILITY

Identify ways to prevent electrical accidents and injuries through the safe use of electrical products.

COMPETENCY	ACTIVITIES	GRADES
Demonstrate the do's and don'ts associated with safe usage of electrical equipment in the home.	1. Create an appliance and hardware store in the classroom. Have students make safe equipment, appliances, and toys for sale in the store. Next, create a living room and washroom in the classroom. Have children make purchases in the store, then demon-	3, 4

COMPETENCY	ACTIVITIES	GRADES
	strate their safe and unsafe use in the home.	
	2. Have students develop an electrical safety checklist to use in the home. Have them complete the checklist with their parents and report the results in class.	3, 4, 5, 6
	3. Design cartoons showing the proper or improper use of electrical toys and appliances commonly found in the home. Collect all cartoons and put together to make a class comic book on electrical safety.	5, 6
	4. Write a play or puppet show to be performed for the lower grades. The theme will be "Creating A Safer Home." Design posters to advertise the performance.	5, 6

OBJECTIVE #3: RESPONSIBILITY

Teach students basic first aid procedures in case of electrical shock or fire.

COMPETENCY	ACTIVITIES	GRADES
Describe the procedures to be followed in the event of an accident.	1. Invite a guest speaker to discuss electrical injuries, their causes, and procedures to follow in case of accident. Suggested resources are fireman, electrician, or doctor. Have the guest bring slides showing unsafe conditions and related injuries.	3, 4, 5, 6
	2. Make a poster for the school bulletin board on electrical injuries and procedures to follow in case of an accident.	3, 4, 5, 6
	3. Role play an accident situation involving an electrical injury. Have students demonstrate procedures to follow in calling for help. Put the procedure in writing with pictures to post at home and in the classroom.	5, 6

F. Teacher Resource Information

In recent years, several improvements have been made in the design of electrical products to reduce the risk of electrical shock injury. The most significant of these include: (a) double insulation for electric power tools and electric yard garden tools, (b) polarized plugs for lamps and other appliances, and (c) ground fault circuit interrupters (GFCIs) for household circuits and electrical outlets. Proper use of these products can save many lives each year. However, in spite of these advances, consumers are still being injured in shock and burn accidents.

Data collected by the U.S. Consumer Product Safety Commission show that 600 persons lose their lives each year by electrocution in or around the home. In addition, there are approximately 200,000 fires of electrical origin, resulting in about 5,600 deaths, and an estimated 55,000 injuries, each year.

Students should know how electricity works, the common hazards associated with electricity, ways to increase electrical safety, and first aid tips in case of electrical accidents.

How Electricity Works

Electricity or electric current is a flow of "electrons" in a conductor, such as a wire. Electrons are tiny, unseen particles of energy present in all matter. Electrical pressure — or "voltage" — pushes electrical current along wires, just as water pressure pushes water through a pipe.

The electrical power that comes into the house is divided at the main power source into branch circuits. Branch circuits run through the walls and ceilings to the electrical outlets. A 120-volt household circuit usually has two wires (and very often a "third" or grounding wire for safety):

A hot wire that carries the current from the power source to the outlets. It is color-coded and may be any color except white, gray, or green.
A neutral wire that carries the current back to the power source, where it is grounded. It is always colored gray or white. Both are current-carrying wires.

A house will have several circuits, each designed to carry a safe part of the electrical load, and each with its own "watchman" or protector — fuse or circuit breaker.

Common Hazards

Students should learn two basic hazards associated with electricity:

Electrical shock and
Electrical fire.

Electrocution and Shock

Shock occurs when electric current flows through the human body. The effect of this shock may range from a slight tingle to a more severe muscular contraction or even paralysis of the heart, breathing, or nerve centers. A shock can be fatal if even a small level of current flows through the heart, breathing, or nerve centers. Electrical shock kills about 1,100 people a year in the United States. Approximately 600 electrical injuries caused by extension cords are treated in hospital emergency rooms each year. Most of these injuries involve children under age 10. About one-half are under five years of age. Electrical burns to the mouth are the most common injury and the one most frequently suffered by younger children.

Most of the electrocutions related to the use of consumer products can be grouped into three categories: 1. Power line contacts, 2. Product/water involvement, and 3. Repair and installation of electrical products.

Power Line Contact

Contacting a power line with an antenna, metal ladder, kite line or metal pole is a major cause of electrocutions associated with consumer products. Because children can come in contact with power lines when flying a kite, they should be encouraged to follow these safety guidelines:

1. Avoid flying kites in wet, stormy weather. A wet kite string is a good conductor of electricity, and may cause electrocution if it touches a power line.
2. Don't use metalized strings or strings with metal fibers.
3. Kites should be flown only in open areas — never near power lines.
4. If a kite falls into a power line, abandon it. Attempting to remove it is dangerous.
5. Don't use metalized kites. This type of kite has been banned by CPSC.

Product/Water Involvement

Children should learn that water and electricity can be a deadly combination. Making contact with electrical current while standing in water or even on a damp floor can transform what might otherwise be a mild shock into instantaneous death. Consumer products that have been related to this type of electrocution include hair dryers, electrical power tools, television sets, radios, small kitchen appliances and sump pumps.

Children should be encouraged to do the following:

Hair Dryers, Radios, TV Sets

1. Don't leave hair dryers plugged in when

not being used. Even with the switch off, a plugged in hair dryer that falls into a bathtub will electrify the water and is likely to electrocute anyone in the tub.

2. Don't use a hair dryer with wet hands or when standing on a damp floor.
3. Don't place radios or TV sets near the bathtub or shower while bathing.

Small Kitchen Appliances

1. Let your parents know if any appliance causes even the slightest shock. These should be repaired or discarded.
2. Be careful when using appliances around water. Never touch an appliance and a ground, such as a water faucet, simultaneously.

Repair and Installation of Electrical Products

Repairing electrical products or adding an electrical circuit in the home can be risky business. Children should be taught not to try to repair electrical products.

Electrically Caused Fires

Faulty wiring or malfunctioning electrical appliances are major causes of residential fires in this country. Data in CPSC files indicate that about 35% of electrically-caused fires are related to cooking equipment; 30% to components of the electrical distribution system including lighting equipment and cords; and about 20% from appliances such as clothes dryers, TVs, and electric blankets. Nearly 10%, are caused by heating equipment.

To Prevent Fires

Children should become aware of the following hazards:

1. Damaged electrical cords should be promptly replaced.
2. Trouble signs such as flickering lights, sparks from appliances, switches or wall outlets, circuits that do not work, switch plates and wall outlets that are warm to the touch should be watched for. If any of these conditions are found, children should alert their parents immediately.
3. Defective appliances should not be used.
4. Appliances such as coffee makers, electric heaters or laundry equipment should not be left running when no one is home. They could malfunction and cause a fire.
5. Overloading extension cords can cause fires. Students should be cautioned not to use extension cords without checking with their parents first. Parents should be encouraged to know the rating of an extension cord before using it.

   Frequent causes of overloaded extension cords are high current products: air conditioners, electric heaters, irons, and cooking appliances. Throw away any cords that are damaged, and don't use cords which get warm when used.
6. A Class C (for electrical fires) or a multi-purpose type fire extinguisher should be kept in an easily accessible place in the home.

First Aid

Electrical shock often stops the victim's breathing. Medical aid is needed as soon as possible. Children should be taught whom to contact in an emergency and how to request medical assistance. Older children can learn the following first aid steps:

Electrical shock often stops breathing. Give **ARTIFICIAL RESPIRATION.**

Treat the **VICTIM** for shock by placing his head lower than his feet and keeping him warm. Don't give fluids if the victim is unconscious or nauseated.

If the victim is burned, cut away loose clothing and immerse the burned area in cold water or cover with cold wet compresses. Get medical aid **AT ONCE.**

Get medical aid for **ANY** electrical accident victim as soon as you possibly can. First aid is vital, but additional medical attention may be necessary.

G. Unit Glossary

NOTE: These are not meant to be technical definitions. They are defined in terms that 3rd through 6th grade students can understand.

Electrical Fire — A fire caused by a damaged or faulty electrical cord, appliance or switch etc.

Electricity — A flow of electrons.

Electric Shock — Electric current flowing through the human body.

Extension Cord — An extra electrical cord that adds length to the first cord.

Outlet — A socket for an electric plug.

Evaluation of the Guide

The Consumer Product Safety Commission wants to know if this curriculum guide met its stated goals and objectives. As teachers who have used the guide, we ask you to complete this evaluation and return it to CPSC. The form is pre-addressed and stamped for your convenience. Confidentiality is guaranteed. Thank you for your assistance.

1. Please complete the chart below by inserting the appropriate number for the units you taught.

   1 = very much so 2 = somewhat
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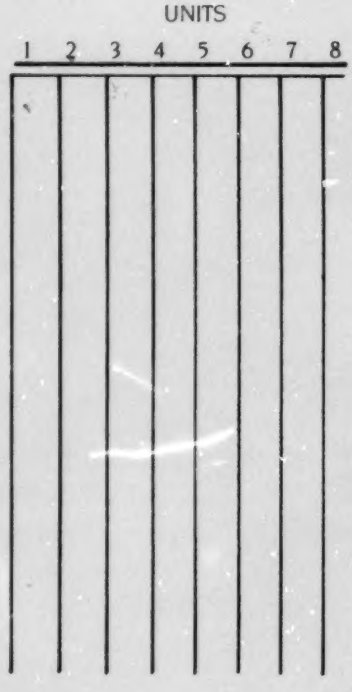

   a) Were you able to integrate the material into your ongoing curriculum?
   b) Was there enough background and resource information for you to teach the unit?
   c) Did the objectives and principles help to focus the purpose of the unit?
   d) Were the student competencies appropriate for your students?
   e) Did your students find the activities interesting?
   f) Did the activities encourage students to adopt safety practices and attitudes?
   g) Did the activities increase students' knowledge of consumer product safety?
   h) Did parents participate in activities with their children?
   i) Did the suggested discussion questions stimulate student thinking and further discussion?

2. Was the guide organized in a way that you found useful?

   yes_____ no_____

   Comments:

3. Will you continue to use this curriculum guide?

   yes_____ no_____

   Comments:

4. What is the location of your school?

   city/town: _____ state: _____

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